

# For Reference

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NOT TO BE TAKEN FROM THIS ROOM

## A PSYCHOMETRIC STUDY OF THE CANADIAN SOLDIER IN THE NORTH

by

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## SYNOPSIS

SIX HUNDRED OPERATIONAL TROOPS OF THE CANADIAN ARMY COMPLETED THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY IMMEDIATELY PRIOR TO THEIR PARTICIPATION IN EXERCISE SWEETBRIAR, A MOCK BATTLE IN THE YUKON. AT THE CONCLUSION OF THE EXERCISE, EACH INDIVIDUAL WAS RATED ON A FIVE POINT SCALE BY HIS SUPERVISING OFFICER.

A TEST PROFILE FOR THE CANADIAN SOLDIER IS FIRST ESTABLISHED. A COMPARISON IS THEN MADE BETWEEN MEAN PROFILES OF THE VARIOUS GROUPS RESULTING FROM THE RATINGS. A DIFFERENT BREAKDOWN IS ACHIEVED BY DIVIDING THE TOTAL INTO TWO GROUPS, ONE CONSISTING ENTIRELY OF INFANTRY, OR COMBATANT TROOPS; THE OTHER COMPOSED OF THE REMAINING CORPS, LARGELY TRADESMEN AND SERVICE TROOPS.

IT IS FOUND THAT INEVITABLY THE LOW-GRADED GROUP IS THE HIGH SCORING GROUP. HOWEVER ALL CANADIAN TROOPS APPEAR LOW ON THE NEUROTIC SCALES, Hs, D AND Hy, AND HIGH ON Pd, Sc AND Ma SCALES. IT IS CONCLUDED THAT PRESENT SCREENING METHODS IN THE CANADIAN ARMY TEND TO CULL OUT POTENTIAL NEUROTICS. THIS DIFFERS FROM AVAILABLE INFORMATION CONCERNING MMPI RESULTS WITH AMERICAN TROOPS.





ALTHOUGH THE EXERCISE DID NOT LAST LONG ENOUGH TO ATTRIBUTE RESULTING MALADJUSTMENT ENTIRELY TO NORTHERN SERVICE CONDITIONS, IT BECOMES APPARENT THAT DIFFICULTIES IN MAINTAINING OPERATIONS IN THE NORTH DEMAND ENQUIRY INTO THE POSSIBILITY OF EVEN SMALL REDUCTION IN THE WASTAGE AND DETERIORATION OF MANPOWER.

RESULTS OF THE STUDY SUGGEST THAT A PERSON-ALITY TEST MIGHT BE DEvised WHICH, COMBINED WITH A CLINICAL INTERVIEW, WOULD SHARPEN SELECTION TECHNIQUES.

THERE IS APPARENTLY A WORTH-WHILE FIELD FOR FURTHER RESEARCH.



## ACKNOWLEDGEMENT

MANY PEOPLE HAVE ASSISTED IN CONNECTION WITH THIS STUDY AND I SHOULD LIKE NOW TO EXPRESS MY GRATITUDE AND APPRECIATION FOR THEIR HELP.

MAJOR-GENERAL M.H.S. PENHALE, MBE, ED, GENERAL OFFICER COMMANDING, WESTERN COMMAND, CANADIAN ARMY, KINDLY GAVE PERMISSION FOR THE TESTING OF EXERCISE SWEETBRIAR PERSONNEL DURING THE CONCENTRATION PERIOD AT WAINWRIGHT, ALBERTA. HE ALSO ALLOWED THE USE OF OFFICER RATINGS AS THE CRITERION FOR THE PROJECT.

COLONEL GEORGE WEIR, CHIEF ADMINISTRATION OFFICER FOR THE CANADIAN ARMY COMPONENT OF SWEETBRIAR WAS PARTICULARLY HELPFUL IN PROVIDING ACCESS TO THE REQUIRED PERSONNEL AND IN STIMULATING REPLIES TO RATING SHEET QUERIES.

MISSSES HELEN McWILLIAMS AND OLGA BARILKO, POST-GRADUATE STUDENTS AT THE UNIVERSITY OF ALBERTA, WERE OF GREAT ASSISTANCE IN THE COMPILATION OF STATISTICS.

THE SPECIAL AID AND SKILLFUL DIRECTION GIVEN BY DR. D. E. SMITH OF THE UNIVERSITY OF ALBERTA HAS BEEN STIMULATING AND INDISPENSABLE. HIS PERSONAL LIAISON WITH DR. W. MORTON OF DEFENCE RESEARCH BOARD, AND DR. S.R. HATHAWAY OF THE UNIV-





ERSITY OF MINNESOTA HAS PROVIDED MATERIAL WHICH BROADENED THE SCOPE OF THIS PROJECT. WITHOUT DR. SMITH'S ENCOURAGEMENT AND HELPFUL CRITICISM THIS WORK COULD NOT HAVE BEEN COMPLETED.

THE DEFENCE RESEARCH BOARD ASSISTED GREATLY BY PROVIDING FUNDS TO TAKE CARE OF THE LABORIOUS DETAIL OF SCORING ANSWER SHEETS.

FINALLY, I AM INDEED GRATEFUL TO CAN-ADIAN ARMY AUTHORITIES, AND THROUGH THEM TO THE DEPARTMENT OF NATIONAL DEFENCE, FOR FINANCING MY POST-GRADUATE STUDIES DURING THE PAST YEAR. IT IS HOPED THAT THE PRESENT DISSERTATION WILL HAVE SOME PRACTICAL VALUE TO THE SERVICE IN POINTING UP AREAS WHERE IMPROVED TECHNIQUES ARE POSSIBLE AND FURTHER RESEARCH DESIRABLE.



(J.M. HOWLETT)



THE UNIVERSITY OF ALBERTA

A PSYCHOMETRIC STUDY  
OF THE  
CANADIAN SOLDIER IN THE NORTH

A DISSERTATION SUBMITTED TO THE  
SCHOOL OF GRADUATE STUDIES IN  
PARTIAL FULFILMENT OF THE REQU-  
IREMENTS FOR THE DEGREE OF MASTER  
OF ARTS

FACULTY OF ARTS AND SCIENCE

BY

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EDMONTON, ALBERTA

APRIL, 1951.





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INTRODUCTIONSTATEMENT OF THE PROBLEM:

CURRENTLY THERE IS MUCH INTEREST IN THE EFFECT OF "THE NORTH", AS SUCH ON INDIVIDUALS WHO FOR SOME REASON FIND THEMSELVES LIVING THERE. A UNIQUE OPPORTUNITY AROSE DURING FEBRUARY, 1950, TO STUDY A LARGE GROUP OF MEN WHO WERE DETAILED TO LIVE IN THE NORTH FOR A PERIOD OF APPROXIMATELY TWO MONTHS. THE CANADIAN ARMY IN CONJUNCTION WITH UNITED STATES FORCES, UNDERTOOK AN OPERATIONAL TASK CALLED EXERCISE SWEETBRIAR.

ASIDE FROM THE DIRECT TRAINING OF TROOPS WHICH RESULTS FROM SUCH ACTIVITY, A MAJOR PURPOSE WAS TO OBSERVE SCIENTIFICALLY THE EFFECT ON MEN AND EQUIPMENT CAUSED BY, AND THE MODIFICATION IN TACTICS REQUIRED BY, THE RIGOROUS ENVIRONMENT. THE MAIN PSYCHOLOGICAL STUDY WAS UNDERTAKEN BY THE AGD OF THE U.S. ARMY, AND THE COMPLETE REPORT ON THE EXERCISE HAS BEEN PUBLISHED JOINTLY BY THE TWO ARMIES. (1)

THE DEFENCE RESEARCH BOARD ARRANGED, THROUGH THE DEPARTMENT OF PHILOSOPHY AND PSYCHOLOGY OF THE UNIVERSITY OF ALBERTA, FOR A SPECIAL OBSERVATION OF CANADIAN PERSONNEL WITH REGARD TO THEIR ADJUSTMENT UNDER NORTHERN SERVICE CONDITIONS. THE PROJECT WAS NECESSARILY SMALL, AND CONCLUSIVE RESULTS WERE NOT



EXPECTED. THIS IS A REPORT ON THE STUDY WHICH WAS MADE.

THE CANADIAN SOLDIER AS AN INDIVIDUAL SHOWS MUCH VARIABILITY IN HIS EFFICIENCY, MOTIVATION AND PERSONAL SATISFACTION WITHIN THE WELL-INTEGRATED TEAM WHICH CONSTITUTES THE CANADIAN ARMY ACTIVE FORCE. CAREFUL SELECTION DEVICES IN PERSONNEL DEPOTS WHERE APPLICANTS ENTER THE ARMY ATTEMPT TO ENSURE THE ACCEPTANCE OF ONLY HIGH QUALITY POTENTIAL SOLDIERS. PHYSICAL AND MENTAL ABILITY IS DETERMINED IN A VERY WORKABLE AND SATISFACTORY MANNER, BUT THE PERSONALITY OF THE INDIVIDUAL IS BARELY SCRUTINIZED IN A CURSORY ATTEMPT TO MATCH THE FUNCTIONING COMPOSITE OF PHYSIQUE AND INTELLECT TO THE ENVIRONMENT OF A SOLDIER. THIS SITUATION RESULTS FROM THE FACT THAT THERE IS NO SIMPLE STANDARD WAY OF DESCRIBING PERSONALITY IN TERMS WHICH PERMIT MATCHING AGAINST JOB REQUIREMENTS, AND FURTHER, THERE HAS BEEN NO ANALYSIS OF ARMY REQUIREMENTS IN TERMS OF PERSONALITY. IT IS USUALLY DIFFICULT THEREFORE, TO SHOW WHY AN INDIVIDUAL WHO MEETS PHYSICAL AND MENTAL STANDARDS, AND WHO ENLISTED VOLUNTARILY, FAILS TO ACHIEVE SATISFACTORY ADJUSTMENT. THIS AREA THEN, APPEARED A LOGICAL STARTING POINT FOR SPECIFIC STUDY DURING THE SPECIAL PERIOD OF THE EXERCISE.



SINCE THE LAST WAR, MUCH EMPHASIS HAS BEEN PLACED ON THE ROLE OF THE CANADIAN ARMY AS THE EXPERT IN NORTHERN WARFARE. HOWEVER, ALTHOUGH MOST PERSONNEL ARE ACCUSTOMED TO COLD WEATHER, CONSIDERABLE RESEARCH IS NECESSARY BEFORE EVEN CANADIANS CAN PERFORM SUCCESSFULLY IN THE NORTH. LIVING CONDITIONS AS THEY EFFECT THE INDIVIDUAL ARE RADICALLY DIFFERENT FROM THE USUAL, AND IT IS A QUESTION WHETHER MEN PHYSICALLY AND MENTALLY FIT, CAN BE DETAILED FOR DUTY IN SUCH AN ENVIRONMENT WITHOUT A FURTHER CAREFUL SCREENING WITH REGARD TO PERSONALITY. THIS STUDY SEEKS TO HELP SECURE AN ANSWER TO THE QUESTION.

IN BRIEF, IT ATTEMPTS TO DISCOVER AMONG TRAINED OPERATIONAL TROOPS, PERSONALITY FACTORS WHICH ARE SIGNIFICANTLY PRESENT IN THOSE INDIVIDUALS WHO REMAIN IN ESSENTIALLY SOUND OVERALL ADJUSTMENT WHILE UNDERTAKING STRESSFUL DUTIES IN CANADA'S NORTHLAND.

IT WAS ASSUMED THAT ALL PERSONNEL WERE NORMALLY ADJUSTED TO ARMY LIFE BEFORE THE EXERCISE AND THEREFORE MALADJUSTMENT WOULD BE DUE TO NORTHERN SERVICE CONDITIONS. RESULTS OF THE PROJECT, HOWEVER, SUGGEST SOME MODIFICATION TO THIS ASSUMPTION.

GENERAL APPROACH:

VERY LITTLE WORK HAS BEEN DONE WITH REGARD





TO FACTORS IN THE PERSONAL ADJUSTMENT OF GOOD TROOPS. WHEN THE INQUIRY PUSHES FURTHER AND SEEKS INFORMATION CONCERNING ADJUSTMENT UNDER SEVERE COLD-WEATHER CONDITIONS, STILL LESS INFORMATION IS AVAILABLE. A REVIEW OF PREVIOUS STUDIES IN ALLIED FIELDS REVEALS LARGELY A NEGATIVE APPROACH.

BLAIR (2) DEALT WITH DISCIPLINARY OFFENDERS IN THE CANADIAN ARMY AND USED SUBJECTS WHO WERE INMATES OF MILITARY DETENTION BARRACKS. HE EMPLOYED TWO CONTROL GROUPS OF NON-OFFENDERS, ONE MATCHED AND ONE RANDOMLY SELECTED. HE ADMINISTERED THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY TO ALL GROUPS AND STUDIED THE MEAN DIFFERENCES. HIS SAMPLES INCLUDED BOTH PARTIALLY TRAINED AND TRAINED SOLDIERS, AND HIS CONTROLS WERE COMPOSED OF MEN WITH CLEAR CRIME SHEETS FOR THE TWELVE MONTHS IMMEDIATELY PRECEDING THE EXPERIMENT. THUS HIS COMPARISON WAS ON THE BASIS OF DELINQUENCY ALONE AND NO ONE OF HIS GROUPS REPRESENTED AN ENTIRELY TYPICAL SOLDIER.

HE CONCLUDED THAT ALL GROUPS DIFFERED SIGNIFICANTLY ON MOST PHASES FROM THE TEST AUTHORS' NORMS AND THAT THERE WAS A RELATIVELY HIGHER STATISTICALLY RELIABLE DIFFERENCE BETWEEN OFFENDERS AND NON-OFFENDERS ON THE "Pd", "Sc", AND "MA" SCALES.



SCHMIDT (3) DESCRIBES THE USE OF THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY IN A CLINICAL SITUATION. HE USED ENLISTED WHITE MALES OF THE ARMY AIR FORCES. THE MEN WERE STUDIED IN TWO GROUPS: 98 NORMAL INDIVIDUALS WHO WERE BEING RECLASSIFIED FOR ADMINISTRATIVE REASONS, AND 121 SUBJECTS WHOSE MALADJUSTMENT LED TO A CLINICAL DIAGNOSIS OF PSYCHIATRIC DISABILITY.

HE DISCOVERED THAT THE TEST DISTINGUISHED SIGNIFICANTLY BETWEEN NORMAL AND ABNORMAL INDIVIDUALS AND BETWEEN MAJOR CLINICAL GROUPS. HE CONCLUDED THAT IT PROVIDED A USEFUL INDICATION OF TRENDS TOWARDS PERSONALITY ABNORMALITIES.

CLARK (4) STUDIED A GROUP OF SOLDIERS CONVICTED OF THE OFFENSE OF AWOL FROM A UNIT WARNED FOR DESPATCH OVERSEAS. HE DISCOVERED THAT THESE MEN OBTAINED MEAN SCORES ON THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY WHICH WERE SIGNIFICANTLY HIGHER THAN THOSE OF THE TEST AUTHORS, AND OF THE "NORMAL" GROUP TESTED BY SCHMIDT (3). THE GROUP PROFILE WAS SIMILAR TO THAT OF A SMALL GROUP OF PSYCHONEUROTICS STUDIED BY GOUGH (5).

IT IS APPARENT THAT THE WORK WHICH HAS BEEN



DONE CONCENTRATES ON SOLDIERS WHO HAVE BECOME DELINQUENTS OR PSYCHIATRIC REFERRALS. NONE OF THESE STUDIES CONSIDERS ENVIRONMENT AS A SPECIFIC FACTOR IN THE INDIVIDUAL'S CURRENT ADJUSTMENT. IN SEEKING REFERENCES TO COLD WEATHER AND RESULTING STRESS IN PERFORMANCE OF DUTIES, IT IS FOUND THAT LITTLE ATTENTION HAS BEEN DIRECTED TO THE EFFECT OF EXTREME TEMPERATURES ON THE HUMAN PERSONALITY.

THE BEST AVAILABLE INFORMATION WAS PROVIDED BY SMITH (6). HIS REPORTS SUGGEST A POSITIVE APPROACH AND DEAL WITH PEOPLE, NORMAL AND ABNORMAL, WHO REMAIN EMPLOYED IN THE NORTH. ALONG THE SAME LINES, AN ATTEMPT WILL BE MADE HERE TO DETERMINE AS SOME MEASURABLE QUALITY, THE PERSONALITY MAKE-UP OF A SATISFACTORY SOLDIER.

A TEST IS EMPLOYED WHICH MEASURES CERTAIN PERSONALITY TRAITS AGAINST A SAMPLE OF "NORMAL" POPULATION. SUBJECTS ARE STUDIED WHO, BY REASON OF THEIR SUCCESS HERETOFORE IN THE ARMY MUST BE CONSIDERED NORMAL CANADIAN TROOPS IN PEACE-TIME. AN ENVIRONMENT IS PROVIDED BY MEANS OF A MILITARY EXERCISE, OR MOCK BATTLE, WHICH IS UNUSUAL BY REASON OF BEING IN CANADA'S BARREN NORTHLAND DURING SEVERE WINTER WEATHER. A RATING SHEET PREPARED BY OFFICERS AFTER THE EXERCISE PROVIDES



A CRITERION BY WHICH FUNCTIONAL EFFICIENCY OF THE INDIVIDUAL CAN BE ESTABLISHED. A COMPARISON OF TEST RESULTS WITH RATING-SHEET RESULTS IS THEN UNDERTAKEN TO DISCOVER THE PERSONALITY TRAITS WHICH APPEAR SIGNIFICANT FOR SUCCESSFUL ADJUSTMENT TO NORTHERN SERVICE.

DEFINITIONS:

IT IS NECESSARY FIRST TO SHOW EXACTLY WHAT IS MEANT BY "THE CANADIAN SOLDIER". HE VARIES CONSIDERABLY DEPENDING ON WHETHER THERE IS WAR OR PEACE IN THE LAND. IT IS ACCEPTED THAT DURING TIME OF WAR LARGE NUMBERS OF MEN ARE MOTIVATED TOWARDS SOLDIERING AND ARE EMPLOYED VERY ADVANTAGEOUSLY IN THE ARMY, WHO HAVE NEITHER THE DESIRE NOR THE DYNAMIC ABILITY TO PERFORM WELL AS CAREER SOLDIERS IN PEACE-TIME. THIS IS THE SAME SORT OF ACTIVITY AS THAT UNDERTAKEN BY VOLUNTEER DIKE-WORKERS IN FLOOD EMERGENCIES, OR FIRST AID ASSISTANTS IN TIME OF DISASTER. THE FACT THAT SUCH INDIVIDUALS CAN BE TRAINED INTO FIRST CLASS FIGHTING TEAMS IS A TRIBUTE TO THE VERSATILITY OF THE CANADIAN CITIZEN. IT IS HOPED NOW, THAT BY STUDYING THOSE MEN WHO CHOOSE TO REMAIN IN THE ARMY EVEN IN PEACE-TIME, SIGNIFICANT KNOWLEDGE OF THE DRIVES AND MOTIVES OF A SOLDIER WILL BE ACQUIRED.







"THE CANADIAN SOLDIER" THEREFORE WILL REFER TO THE TRAINED INDIVIDUAL WHO FUNCTIONS IN THE CANADIAN ARMY ACTIVE FORCE BRIGADE GROUP AND WHO IS THUS AUTOMATICALLY IN AN OPERATIONAL ROLE. GENERALLY SPEAKING, HE HAS BEEN EXPOSED TO ALL SELECTION DEVICES NOW EXISTENT IN THE ARMY TO PROCURE MEN OF THE MOST SATISFACTORY TYPE FOR SUCH SERVICES. HE HAS BEEN REQUIRED TO MEET VERY HIGH STANDARDS.

"EXERCISE SWEETBRIAR", WAS A JOINT OPERATION INVOLVING CANADIAN AND UNITED STATES ARMIES AND AIR FORCES. IT WAS THE FIRST LARGE-SCALE ACTION OF COMBATANT FORCES IN THE NORTH IN PEACE-TIME. THE CANADIAN ACTIVE FORCE BRIGADE TROOPS WERE EMPLOYED, AND WERE GIVEN SPECIAL TRAINING BEFORE PARTICIPATION. IT PROVIDED THE CLOSEST APPROXIMATION TO BATTLE CONDITIONS THAT CAN BE SIMULATED NOW. ONLY SOLDIERS DETAILED TO PROCEED ON THE EXERCISE WERE TESTED AND USED IN THIS STUDY.

"THE NORTH", HAS GENERAL GEOGRAPHIC REFERENCE TO NORTHERN CANADA, BUT IS INTENDED PRIMARILY TO DESCRIBE ISOLATED AREAS WHERE CONTACT WITH CIVILIZATION IS DIFFICULT. THE SPECIFIC TRAINING AND THE EXERCISE ITSELF TOOK PLACE WHILE TEMPERATURES RANGED FROM -20°F



TO -60°F.

"PERSONALITY", IS BROADLY ASSUMED TO MEAN A COMPOSITE OF MOTIVATION, CAPACITY, AND CONTROL IN THE INDIVIDUAL WHICH PERMITS ADJUSTMENT TO HIS ENVIRONMENT. IN THIS STUDY, SERVICE LIFE IN THE CANADIAN ARMY UNDER OPERATIONAL CONDITIONS IN THE NORTH PROVIDED A SPECIFIC ENVIRONMENT. THE "COMPOSITE" OR PERSONALITY, WHICH BEST SUITS THIS ENVIRONMENT IS WHAT MUST BE DETERMINED.

"THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY", (7), (8), (9), (10), (11), BY STARKE R. HATHAWAY AND J. CHARNLEY MCKINLEY, HAS BEEN SELECTED AS THE INSTRUMENT BY WHICH SUCH DETERMINATION MIGHT BE ACHIEVED. IT WILL BE REFERRED TO THROUGHOUT AS "THE TEST" OR "THE M M P I". A DESCRIPTION OF THE TEST IS INCLUDED TOGETHER WITH COMPREHENSIVE REASONS FOR ITS SELECTION.



ARMY SELECTION PROBLEMSINTRODUCTION:

THE ULTIMATE OBJECT OF ALL SCREENING AND SELECTION PROCEDURES MUST BE FUNCTIONAL. DOES THE INDIVIDUAL PERFORM SATISFACTORILY AFTER THE ACCEPTANCE AND PLACEMENT? THIS IS AN EVER-PRESENT CRITERION FOR SUCCESS.

MANY SELECTION DEVICES ALREADY ARE IN USE IN THE ARMY. THE INDIVIDUAL HAS BEEN SCREENED CAREFULLY TO ENSURE THAT HE POSSESSES THE ABILITY TO FUNCTION AS A SOLDIER. THERE HAS BEEN LITTLE ATTEMPT, HOWEVER, TO LOOK FOR QUALITIES WHICH MAY BE REQUIRED FOR SATISFACTORY ACHIEVEMENT IN THE SPECIFIC ENVIRONMENT OF THE NORTH. BEFORE STUDYING THIS ASPECT, IT IS NECESSARY TO REVIEW PRESENT SELECTION METHODS TO DISCOVER WHAT NORMAL PROCESSING HAS ALREADY BEEN UNDERTAKEN WITH THE SUBJECTS IN THIS WORK.

HISTORICAL:

THE OLDEST METHOD FOR SELECTION OF FIGHTING PERSONNEL PROBABLY HAD A FUNCTIONAL BASIS, DETERMINED BY TRIAL AND ERROR. THE INDIVIDUAL WHO COULDN'T FIGHT AVOIDED TROUBLE AND THUS "SELECTION" OF WARRIORS WAS DIRECT AND PERSONAL. IN FEUDAL TIMES, THE LORD OF THE MANOR, OR HIS OVERSEER, KNEW THE PERFORMANCE OF INDIVIDUAL



RETAINERS, AND PHYSICALLY-LIMITED PERSONNEL WERE GIVEN JOBS AS GROOMS OR ATTENDANTS WITHIN THEIR CAPABILITIES. LATER, WARS WERE FOUGHT PRIMARILY BY MERCENARIES WHO SOLD SKILL-AT-ARMS AS A COMMODITY, THE PRICE VARYING WITH THE PROOF OF ABILITY.

IT WAS NOT UNTIL COMPARATIVELY MODERN TIMES THAT A MORE MATERIAL BASIS FOR THE HIRING OF SOLDIERS BECAME IMPORTANT. AS CITIZEN ARMIES APPEARED, WHERE INDIVIDUALS FOUGHT FOR THEIR COUNTRY IN TIME OF WAR, BUT WERE ESSENTIALLY CIVILIANS MEETING A NATIONAL EMERGENCY, THE NEED FOR SYSTEMATIC SELECTION BECAME APPARENT. ENTHUSIASTIC PATRIOTS WHO HAD BAD HEARTS, OR LUNGS, OR LEGS, WERE LIABILITIES IN A COMBATANT ROLE. HENCE PHYSICAL STANDARDS WERE ESTABLISHED AND A MEDICAL SCREENING OF RECRUITS TOOK PLACE. AFTER THE 1914-18 WAR THIS NEED WAS EMPHASIZED IN A DIFFERENT WAY BY A HUGE CLAIM FOR INDIVIDUAL PENSIONS AS PAYMENT FOR DETERIORATED PHYSICAL CONDITION RESULTING FROM WAR SERVICE.

IN 1939, AS THE CANADIAN ARMY MOBILIZED, RECRUITS WERE ACCEPTED OR REJECTED LARGELY ON A PHYSICAL BASIS. AS THE INITIAL ADMINISTRATIVE PRESSURE LESSENERD AND MEDICAL OFFICERS BECAME MORE EXPERIENCED, THE VAGUE RIGIDITY OF AN "A", "B", "C" CATEGORY SYSTEM DISPLAYED





MANY WEAKNESSES. WITH EMPHASIS ON ECONOMY OF MANPOWER, FUNCTION BECAME MORE IMPORTANT THAN ANATOMICAL PERFECTION.

THE PERSONNEL SELECTION SERVICE WAS ESTABLISHED IN 1941 TO ASSIST IN THE CORRECT PLACEMENT OF PERSONNEL ACCORDING TO INDIVIDUAL FUNCTIONAL ABILITIES, AND THE NEEDS OF THE SERVICE. REVISION OF PHYSICAL STANDARDS BECAME AN IMMEDIATE NECESSITY AND THE "PULHEMS" (12) SYSTEM OF MEDICAL GRADING RESULTED. THIS INVOLVED A DESCRIPTION OF THE COMPLETE FUNCTIONAL ABILITY OF THE INDIVIDUAL FOR ARMY PURPOSES, INCLUDING INTELLECTUAL POTENTIAL AND EMOTIONAL STABILITY. A QUICK JOB ANALYSIS ESTABLISHED THE RELATIONSHIP BETWEEN ARMY EMPLOYMENT AND THE MEDICAL DESCRIPTION OR "PROFILE". THE PERSONNEL OFFICER, OR ARMY EXAMINER AS HE WAS THEN CALLED, UTILIZED ALL THIS INFORMATION TOGETHER WITH HIS ASSESSMENT OF THE INDIVIDUAL FROM PERSONAL INTERVIEW, TO ALLOCATE THE RECRUIT TO THE POST IN THE ARMY WHERE HE COULD PERFORM AT HIS MAXIMUM.

PSYCHIATRISTS WERE EMPLOYED AS CONSULTANTS TO MEDICAL BOARDS AND EVENTUALLY ON THE BOARDS TO ESTABLISH THE STABILITY AND MENTAL GRADING. HOWEVER, LACK OF STAFF AND ADMINISTRATIVE PRESSURE ON ENLISTMENT



DEPOTS PRECLUDED CLINICAL EVALUATION OF APPLICANTS. VARIOUS QUESTIONNAIRES WERE EMPLOYED, AND CLOSE LIAISON BETWEEN PERSONNEL OFFICERS AND PSYCHIATRISTS HELPED TO DETECT INDIVIDUALS OBVIOUSLY ABNORMAL WITH REGARD TO PERSONALITY. NO ATTEMPT WAS MADE TO STUDY THE PERSONAL ADJUSTMENT OF SOLDIERS AFTER ENLISTMENT. PSYCHIATRIC REFERRALS WERE ALMOST ENTIRELY ON A MEDICAL BASIS AFTER MALADJUSTMENT HAD BECOME OBVIOUS.

Post-War Selection:

SINCE THE WAR, IN THE ACTIVE FORCE, ENLISTMENT PROCEDURE REMAINS SIMILAR EXCEPT THAT THERE IS NOT A PSYCHIATRIST ON THE MEDICAL BOARD. PERSONNEL DEPOTS, THROUGH WHICH A MAN ENTERS THE ARMY, EMPLOY TEAMS OF MEDICAL AND PERSONNEL OFFICERS. THE PHYSICAL REQUIREMENTS ARE HIGH AND THE RECRUIT IS CAREFULLY EXAMINED TO ENSURE THAT HE MEETS THEM.

AN INTELLIGENCE TEST, COMBINED WITH A PERSONAL INTERVIEW BY THE SPECIALIST PERSONNEL OFFICER, DISCOVERS HIS MENTAL ABILITY, EDUCATIONAL BACKGROUND AND GENERAL SUITABILITY FOR ENLISTMENT. HE IS THEN ALLOCATED TO A CORPS IN THE ARMY ACCORDING TO HIS POTENTIALITIES AND THE SERVICE REQUIREMENTS. AFTER



ACCEPTANCE, THE SOLDIER IS SENT TO A SCHOOL FOR GENERAL MILITARY TRAINING, AND SPECIAL-TO-CORPS TRAINING. IT IS ONLY AFTER A MINIMUM OF SIX MONTHS AT THE SCHOOL, THAT THE PARTIALLY TRAINED SOLDIER IS POSTED TO A UNIT IN THE BRIGADE GROUP TO COMPLETE TRAINING AND LEARN OPERATIONAL METHODS OF WARFARE. MANY APPLICANTS ARE REJECTED ALONG THIS ROUTE AND IT MUST BE ACCEPTED THAT MEMBERSHIP IN THE BRIGADE CONSTITUTES THE FIRST AND BEST CRITERION FOR SUCCESS AS A SOLDIER. DESPITE INDIVIDUAL MISPLACEMENTS WHICH MAY BE APPARENT, BRIGADE GROUP PERSONNEL ARE, THEORETICALLY AT LEAST, CANADIAN SOLDIERS AT THEIR BEST.

IT IS OBVIOUS, HOWEVER, THAT DURING THIS SELECTION PROCESS, THE ONLY APPROACH TO PERSONALITY STUDY APPEARS IN THE INTERVIEW BY A PERSONNEL OFFICER. THIS IS IN NO SENSE A CLINICAL STUDY, AND HIS APPRAISAL DEPENDS LARGELY UPON RESULTS OF THE INTELLIGENCE TEST, AND THE INDIVIDUAL'S OWN STORY OF INTERESTS AND OCCUPATIONAL RECORD. IT IS AT THIS POINT IN THE ROUTINE THAT ADDITIONAL TESTING MATERIAL MIGHT BE INTRODUCED WITH PREDICTIVE VALUE AS TO ADJUSTMENT TO SERVICE CONDITIONS.

THE PRICE PAID BY THE SERVICE FOR NEGLECT OF THIS ASPECT IS EXTREMELY HIGH. DURING THE 1939-45 WAR,



DESPITE ROUGHNESS OF PSYCHIATRIC SCREENING PROCEDURES, ALMOST FORTY-FIVE PERCENT OF REJECTIONS AT DEPOTS WERE PSYCHIATRIC, NERVOUS AND MENTAL DEFECTS. IN ADDITION TO THIS, "FORTY PERCENT OF DISCHARGES OF SOLDIERS - IN- TRAINING ON MEDICAL GROUNDS ARE DUE TO NEURO- PSYCHIATRIC CONDITIONS AND THIRTY-FIVE PERCENT OF BATTLE CASUALTIES ARE DUE TO THE SAME GROUNDS."(13)

ANY PROCEDURE WILL BE WELCOME THEN, WHICH APPRECIABLY LOWERS THE RISK OF "HIRING" INDIVIDUALS WITH SUFFICIENT TENDENCY TOWARDS THE ABNORMAL TO BREAK DOWN UNDER SERVICE CONDITIONS. IF NORTHERN SERVICE REQUIRES SPECIAL QUALITIES IT WOULD BE VERY HELPFUL TO SECURE SOME MEANS OF IDENTIFYING, EARLY IN HIS CAREER, THE INDIVIDUAL MOST LIKELY TO SUCCEED IN SUCH AN ENVIRONMENT.





THE PRESENT STUDY

OBJECT:

THIS STUDY SET OUT TO DISCOVER WHAT EFFECT WINTER WARFARE CONDUCTED IN CANADA'S NORTHLAND WOULD HAVE ON THE PERSONAL ADJUSTMENT OF SOLDIERS. SOME MODIFICATION OF EMPHASIS ON THE WORD "WINTER" IS NOW NECESSARY. RESULTS SUGGEST THAT A TWO MONTH TRAINING PERIOD AND EXERCISE, WITHIN THE PATERNAL STRUCTURE OF A MODERN ARMY IS INSUFFICIENT EXPOSURE DEFINITELY TO ATTRIBUTE SUCCESSES OR SHORTCOMINGS TO WINTER CONDITIONS AND ISOLATION.

HOWEVER, ADJUSTMENT OF INDIVIDUALS VARIED CONSIDERABLY, AND IT IS BELIEVED THAT VALUABLE INFORMATION HAS BEEN ACQUIRED CONCERNING POTENTIALLY "GOOD" SOLDIERS, DESPITE THE FACT THAT THE SPECIFIC EFFECT OF "THE NORTH" IS OVERSHADOWED BY THAT OF A GENERAL MILITARY ENVIRONMENT. THE POSSIBILITY ARISES THAT PSYCHOMETRIC DISTINCTION CAN BE MADE BETWEEN INDIVIDUALS WHOSE PERSONALITY TRAITS WILL NOT TOLERATE THE EXTRA AND SPECIAL DEMANDS OF SUCH AN ENVIRONMENT, AND THOSE WHO WILL REMAIN IN ESSENTIALLY SOUND ADJUSTMENT. THE ORIGINAL OBJECT IS EXTENDED THEREFORE TO A REVIEW OF THIS POSSIBILITY IN TERMS OF A GENERAL SELECTION DEVICE.



METHOD:

THE TROOPS FORMING SUBJECTS FOR THE EXPERIMENT WERE TO CONCENTRATE AT WAINWRIGHT MILITARY CAMP IN ALBERTA DURING DECEMBER, 1949. THEY WOULD SPEND SIX WEEKS IN THIS AREA, TRAINING AND UNDERGOING "WINTER INDOCTRINATION". THEY WERE BASED IN HUTTED ACCOMMODATION, BUT WERE CALLED UPON CONTINUALLY TO WORK IN SUB-ZERO WEATHER, AND FREQUENTLY TO LIVE OUTSIDE.

TESTING MUST PERFORCE BE UNDERTAKEN DURING THIS CONCENTRATION AND TRAINING PERIOD. THE GENERAL-OFFICER-COMMANDING WESTERN ARMY COMMAND, APPROVED THE TESTING PROGRAM, BUT WOULD NOT PERMIT INTERFERENCE WITH TRAINING SYLLABI. IT BECAME ESSENTIAL, THEREFORE, TO EMPLOY A TEST WHICH PROVIDED INFORMATION ABOUT THE INDIVIDUAL'S PERSONALITY, YET COULD BE ADMINISTERED IN A GROUP FORM. THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY WAS SELECTED AS BEST MEETING SUCH REQUIREMENTS.

THE NEXT IMPORTANT CONSIDERATION WAS TO ESTABLISH THE CRITERION BY WHICH THE EFFECT OF THE EXERCISE ON EACH SOLDIER COULD BE MEASURED. SOME THOUGHT WAS GIVEN TO SETTING UP AN OBSERVER TEAM TO



ACCOMPANY THE TROOPS INTO ACTION. IT WAS DECIDED, HOWEVER, THAT MODERN INFANTRY TACTICS WOULD NOT PERMIT CLOSE OBSERVATION ON LARGE NUMBERS OF SUBJECTS. AT THE SAME TIME, IT WAS BROUGHT TO ATTENTION THAT THE CRITERION WOULD HAVE TO BE SATISFACTORY PERFORMANCE AS A SOLDIER DURING OPERATIONS, REGARDLESS OF WHETHER OR NOT THERE WERE MINOR PERSONALITY DISTURBANCES IN THE INDIVIDUAL.

THE SOLUTION APPEARED TO LIE IN A RATING OF EACH MAN BY HIS IMMEDIATE SUPERVISING OFFICER. SUCH A PLAN WAS ADOPTED AND A RATING SHEET WAS DEVISED.

EVALUATION OF RESULTS INVOLVED ESTABLISHMENT OF A MEAN PROFILE ON THE TEST FOR ALL SOLDIERS RATED BETTER THAN "GOOD" AND COMPARISON WITH A MEAN PROFILE FOR THOSE LOWER THAN "GOOD".

A REVIEW OF RECENT WORK USING THE MMPI WITH SERVICE PERSONNEL SUGGESTED THAT SPECIAL ATTENTION MUST BE GIVEN TO TEST NORMS BEFORE THE RESULTS COULD BE EVALUATED. BOTH BLAIR, (2) AND SCHMIDT, (3) DISCOVERED THAT THE AUTHORS' NORM FOR AMERICAN CIVILIANS WAS DIFFERENT FROM THAT ESTABLISHED FOR SOLDIERS. THE THOUGHT IMMEDIATELY AROSE THAT NOT ONLY WERE A GROUP



OF SOLDIERS DIFFERENT FROM AVERAGE CIVILIANS, BUT PERHAPS ALSO CANADIANS WERE DIFFERENT FROM AMERICANS.

THE EXERCISE PROVIDED A PARTICULARLY GOOD OPPORTUNITY TO ESTABLISH A MEAN PROFILE FOR THE CANADIAN SOLDIER AS A SEPARATE ENTITY. NOT ONLY WAS A NUMERICALLY LARGE SAMPLE AVAILABLE, BUT THE BALANCED GROUP INVOLVING COMBATANT TROOPS, TRADESMEN AND SERVICE CORPS, INCLUDED ALL THE VARIOUS TYPES OF MEN WHO CAN NOW FIND A FULL-TIME CAREER IN AN ARMY SETTING. IN ADDITION, THE CONCENTRATION INVOLVED BRINGING MEN FROM ALL PARTS OF CANADA.

THE INFANTRY COMPONENT CONTAINED A PREPOND-ERENCE OF WESTERNERS, BUT ALSO HAD REASONABLE NUMBERS FROM OTHER PARTS OF THE COUNTRY, PARTICULARLY THE MARITIMES. OTHER UNITS WERE REPRESENTATIVE OF THEIR CORPS, WHICH ARE RECRUITED IN ALL PARTS OF THE DOMINION. HENCE THERE IS AN ADEQUATE INCLUSION OF EASTERN AND CENTRAL CANADIANS TO CONSIDER THE GROUP REPRESENTATIVE OF ENGLISH-SPEAKING CANADA.

HAVING ESTABLISHED A MEAN PROFILE ON THE TEST FOR THE CANADIAN SOLDIER, THIS COULD BECOME THE NORM FROM WHICH SIGNIFICANT DEVIATION MIGHT BE MEASURED. SOME TEMERITY WAS FELT IN SETTING THIS STANDARD, AS THE





"POOR" AND "FAIR" SOLDIERS WERE THUS INCLUDED IN THE MEASURING DEVICE. NEVERTHELESS, ALL MEN WERE RATED AS OPERATIONAL TROOPS BEFORE ENTERING UPON THE EXERCISE, AND IT WAS CONSIDERED PROPER TO USE ALL GROUPS. IT WAS HOPED THAT, IN GENERAL, RATINGS EITHER HIGH OR LOW WOULD EXPRESS THE EFFECT OF THE SPECIFIC RIGOROUS ENVIRONMENT ON THE INDIVIDUAL, AND THUS DISCLOSE A PERSONALITY TENDENCY WHICH MIGHT BE ACCEPTABLE UNDER LESS STRESSFUL SERVICE CONDITIONS, BUT WHICH LESSENE EFFICIENCY WHEN EXPOSED TO THE NORTH.

IN EVALUATING RESULTS IT WAS FOUND THAT DIFFERENCES DISCOVERED BY THE RATING CRITERION COULD BE STUDIED TO BETTER ADVANTAGE BY COMPARING MEAN TEST SCORES OF HIGH AND LOW GROUPS WITH EACH OTHER, RATHER THAN WITH THE MEAN PROFILE FROM THE CANADIAN SOLDIER.

#### MATERIALS AND SCOPE:

THE SUBJECTS CONSISTED OF 620 TRAINED SOLDIERS OF CANADA'S ACTIVE FORCE BRIGADE GROUP. THEY WERE TESTED DURING A CONCENTRATION PERIOD AT WAINWRIGHT, ALBERTA. ALL RANKS UP TO AND INCLUDING THAT OF CAPTAIN WERE USED. ALL MEN HAD BEEN RE-EXAMINED MEDICALLY AND WERE PRONOUNCED PHYSICALLY



SUITABLE FOR PARTICIPATION IN THE NORTHERN EXERCISE.

TO ENSURE THAT RESULTS PICTURED A MODERN SOLDIER, SAMPLES WERE TAKEN FROM ALL CORPS. THE ACTUAL NUMBERS USED AND BREAKDOWN BETWEEN CORPS IS SHOWN IN TABLE 1.

TESTING CONDITIONS WERE NOT IDEAL, AS NO INTERFERENCE WITH TRAINING WAS PERMITTED. THE GROUP FORM OF THE TEST WAS USED AND IT WAS USUALLY ADMINISTERED AFTER DUTY HOURS IN THE MEN'S SLEEPING QUARTERS, WITH THE INDIVIDUALS SPRAWLED OUT ON BEDS. HOWEVER, THE PROJECT WAS WELL RECEIVED AND THERE IS NO REASON TO BELIEVE THAT PHYSICAL DISCOMFORT DURING TEST PERFORMANCE CAUSED A SIGNIFICANT VARIATION IN RESULTS. CLOSE SUPERVISION WAS POSSIBLE AND HELPED REDUCE THE NUMBER OF INCOMPLETE OR INVALID RETURNS.

THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY HAS BEEN DESCRIBED ADEQUATELY ELSEWHERE AS TO ITS CONSTRUCTION AND STANDARDIZATION (7), (8), (9), (10), (11). IT IS NECESSARY HERE, HOWEVER, TO POINT OUT ITS PARTICULAR VALUES IN THE PRESENT STUDY.

THE FIRST CONSIDERATION WAS THAT SOME WORK HAS ALREADY BEEN DONE BOTH ON NORTHERN RESIDENTS (6) AND ON SERVICE PERSONNEL, (2), (3), USING THE MMPI.



NUMERICAL BREAKDOWN BY CORPS

ROYAL CANADIAN ARTILLERY	(RCA).....	59
ROYAL CANADIAN SIGNALS	(RCCS).....	55
ROYAL CANADIAN INFANTRY CORPS	(RCIC).....	321
ROYAL CANADIAN ARMY SERVICE CORPS	(RCASC).....	74
ROYAL CANADIAN ARMY MEDICAL CORPS	(RCAMC).....	24
ROYAL CANADIAN ORDNANCE CORPS	(RCOC).....	7
ROYAL CANADIAN ELECTRICAL MECHANICAL ENGINEERS	(RCEME).....	25
CANADIAN INTELLIGENCE CORPS	(C INT C).....	8
CANADIAN PROVOST CORPS	(C PRO C).....	27
	TOTAL	<u>600</u>

TABLE 1.



SECONDLY, THE TEST IS AVAILABLE IN GROUP FORM AND IS THEREFORE PARTICULARLY ADAPTABLE TO THE CONDITIONS UNDER WHICH THIS PROJECT MUST BE CARRIED OUT.

THIRDLY, "THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY IS A PSYCHOMETRIC INSTRUMENT DESIGNED PRIMARILY TO PROVIDE IN A SINGLE TEST, SCORES ON ALL THE MORE IMPORTANT PHASES OF PERSONALITY" (14). THE GROUP FORM, WHICH WAS USED IN THIS WORK, CONSISTS OF 566 STATEMENTS, PRINTED IN A BOOKLET, TO WHICH "TRUE" OR "FALSE" RESPONSES ARE INDICATED. SUBJECT MATTER VARIES FROM PHYSICAL CONDITION TO THE MORALE, AND SOCIAL ATTITUDES OF THE INDIVIDUAL. NINE PERSONALITY CHARACTERISTICS ARE SCORED FROM THE ANSWERS:- HYPOCHONDRIASIS, DEPRESSION, HYSTERIA, PSYCHOPATHIC PERSONALITY, MASCULINITY-FEMININITY, PARANOIA, PSYCHASTHENIA, SCHIZOPHRENIA AND HYPOMANIA. EACH OF THESE PHASES HAS BEEN VALIDATED AGAINST CLINICALLY DIAGNOSED ABNORMAL CASES. THE VALUE OF THE TEST FOR THIS STUDY LIES IN THE FACT THAT SCORES ARE DERIVED ALONG A CONTINUUM FROM NORMAL TO ABNORMAL SO THAT BORDERLINE CASES AND TRENDS ARE INDICATED.

IN VIEW OF THE GENERAL NATURE OF PSYCHIATRIC NOSOLOGY, THE BROAD SYNDROME CONSIDERED BY THE TEST AUTHORS AS CLINICALLY TYPICAL OF EACH PHASE, IS GIVEN





HERE IN BRIEF RESUME:-

THE HYPOCHONDRIASIS SCALE (Hs) - IS A MEASURE OF THE AMOUNT OF ABNORMAL CONCERN ABOUT BODILY FUNCTIONS. SUBJECT IS IMMATURE IN APPROACH TO ADULT PROBLEMS AND TENDS TO RESPOND WITH INADEQUATE INSIGHT.

THE DEPRESSION SCALE (D) - MEASURES POOR MORALE OF THE EMOTIONAL TYPE. SUBJECT LACKS SELF-CONFIDENCE, HAS A TENDENCY TO WORRY, AND SHOWS NARROWNESS OF INTERESTS AND INTROVERSION.

THE HYSTERIA SCALE, (Hy) - MEASURES THE SIMILARITY TO CONVERSION-TYPE HYSTERIA. COMPLAINTS MAY BE SYSTEMIC OR SPECIFIC. UNDER STRESS THE HIGH SCORING SUBJECT MAY BECOME OVERTLY HYSTERICAL AND SOLVE PROBLEMS BY DEVELOPING SYMPTOMS.

THE PSYCHOPATHIC DEViate SCALE, (Pd) - MEASURES ABSENCE OF DEEP EMOTIONAL RESPONSE, INABILITY TO PROFIT FROM EXPERIENCE, AND A DISREGARD OF SOCIAL MORES. MOST FREQUENT DIGRESSIONS FROM THE SOCIAL MORES ARE LYING, STEALING. THE EQUIVALENT TERMS FOR PSYCHOPATHIC DEViate IN STANDARD WORKS ARE "PSYCHOPATHIC PERSON-ALITY", "PSYCHOPATHIC INFERIOR", OR "PSYCHOPATHIC STATE".

THE MASCULINITY-FEMININITY SCALE, (Mf) - MEASURES THE



DEVIATION OF THE BASIC INTEREST PATTERN IN THE DIRECTION OF THE OPPOSITE SEX.

THE PARANOIA SCALE, (Pa) - MEASURES THE TENDENCY TOWARDS SUSPICIOUSNESS, OVER-SENSITIVITY AND DELUSIONS OF PERSECUTION.

THE PSYCHASTHENIA SCALE, (Pt) - MEASURES THE TENDENCY TOWARDS PHOBIAS OR COMPULSIVE BEHAVIOR. IT MAY BE MANIFESTED MERELY IN A DEPRESSION, EXCESSIVE WORRY, LACK OF CONFIDENCE OR INABILITY TO CONCENTRATE.

THE SCHIZOPHRENIA SCALE, (Sc) - MEASURES THE TENDENCY TOWARDS BIZARRE AND UNUSUAL THOUGHTS OR BEHAVIOR. THERE ARE IRRATIONAL SHIFTS IN MOOD OR BEHAVIOR.

THE HYPOMANIA SCALE, (Ma) - MEASURES THE TENDENCY TOWARDS MARKED OVERPRODUCTIVITY OF THOUGHT AND ACTION. THIS MAY RESULT IN GOOD OR BAD BEHAVIOR. HIGH SCORES MAY INDICATE SUBJECT IS AMBITIOUS, VIGOROUS, AND FULL OF PLANS. ON THE OTHER HAND, HE MAY BE SOMEWHAT DEPRESSED AT TIMES, AND HIS ACTIVITIES MAY INTERFERE WITH OTHER PEOPLE THROUGH HIS ATTEMPTS TO REFORM SOCIAL PRACTICE, HIS ENTHUSIASTIC STIRRING UP OF PROJECTS IN WHICH HE THEN MAY LOSE INTEREST, OR HIS DISREGARD OF SOCIAL CONVENTIONS.



THE VALIDATING SCORES (? , L, F AND K)

THE FIRST PROBLEM IN EVALUATING TEST RESULTS IS TO DECIDE WHETHER OR NOT THE SCORES ARE VALID FOR THE INDIVIDUALS TESTED. FOUR SCALES ARE INCLUDED TO PROVIDE A CHECK ON THIS POINT.

THE ? SCALE (?) - THE RAW SCORE ON THIS SCALE IS MERELY THE NUMBER OF QUESTIONS NOT ANSWERED. FOR THE "?" SCALE, SCORES ABOVE THE T-SCORE OF 60 HAVE BEEN CONSIDERED INVALID IN THIS STUDY.

THE LIE SCALE; (L) - IS MADE UP OF 15 ITEMS TO DETECT THE PERSON WHO IS LYING IN THE SENSE OF TRYING TO PLACE HIMSELF IN A HIGHLY CONVENTIONAL AND SOCIALLY ACCEPTABLE LIGHT. A T-SCORE ABOVE 70 INDICATES NEED FOR CAUTIOUS INTERPRETATION.

THE F SCALE: (F) - HIGH SCORES MAY LEGITIMATELY INDICATE HIGHLY INDIVIDUAL AND INDEPENDENT SUBJECTS OR BADLY NEUROTIC OR PSYCHOTIC PATIENTS. THE LATTER ARE INEVITABLY BETRAYED BY HIGH SCORES ON OTHER SCALES. EXCEPT FOR SUCH CASES, T-SCORES ABOVE 70 INVALIDATE THE TEST.

THE K SCALE; (K) - IS ESSENTIALLY A CORRECTION FACTOR WHICH HAS BEEN FOUND TO BE OF USE IN SHARPENING THE DISCRIMINATORY POWER OF THE CLINICAL VARIABLES. ITS EFFECT IS TO ACCENTUATE THE VALIDITY OF FIVE OF THE NINE





EXISTING CLINICAL SCALES AND TO MAKE NORMALS APPEAR MORE NORMAL.

THE CONVERSION OF SCORES TO A T SCALE, AND THE GRAPHICAL METHOD OF PRESENTING RESULTS, FACILITATE GENERALIZATION ON THE BASIS OF STANDARDIZED PROFILES. FOR PREDICTION PURPOSES IT IS ESSENTIAL THAT A FIXED NORM BE ESTABLISHED AGAINST WHICH THE INDIVIDUAL'S PROFILE CAN BE MEASURED. IN THE PRESENT STUDY, THE FIRST STEP WAS TO DISCOVER THE MEAN PROFILE FOR THE CANADIAN SOLDIER. RESULTS WERE THEN SHARPENED BY COMPARING EXTREME GROUPS DIRECTLY WITH EACH OTHER.

THE RATING SHEET WAS MADE AS SIMPLE AS POSSIBLE AND WAS ACCOMPANIED BY WRITTEN DIRECTIONS FOR ITS USE. IN ADDITION MOST OF THE OFFICERS USING IT WERE GIVEN A BRIEF LECTURE AS TO THE GENERAL PLAN OF THE PROJECT AND THE NEED FOR OBJECTIVITY IN RATING. IT WAS HOPED THUS TO MINIMIZE BIAS AND AMBIGUITY, AND ACHIEVE A REASONABLE UNIFORMITY IN THE GRADINGS.

ON THE RATING SHEET, THE INDIVIDUAL'S FUNCTIONAL PERFORMANCE WAS SHOWN AS DEPENDING ON TEN PERSONAL QUALITIES. EACH OF THESE WAS TO BE RATED ON A FIVE-POINT SCALE FROM OUTSTANDING, THROUGH SUPERIOR, GOOD, FAIR, TO POOR. THE FORM AND INSTRUCTIONS FOR ITS USE ARE SHOWN





IN APPENDIX 1.

THE BREAKDOWN OF QUALITIES WAS INCLUDED TO DESTROY BIAS AND THE "HALO EFFECT". ACTUALLY, NUMBER 7, "OVER-ALL EFFICIENCY" REMAINS THE CRITERION. RATINGS IN THIS PARTICULAR COLUMN HAVE BEEN USED FOR SEGREGATION OF GROUPS AND COMPARISONS THROUGHOUT THIS WORK.

THE SYSTEM REMAINS SUBJECT TO THE VARIOUS WEAKNESSES OF ANY RATING CLASSIFICATION. HOWEVER, THE OFFICERS USING IT WERE LARGELY UNIVERSITY MEN, AND ALL WERE FULLY EMPLOYED IN A CAREER INVOLVING CONTINUAL DIRECTION AND UNDERSTANDING OF SOLDIERS. IT IS ASSUMED, THEREFORE, THAT THE CRITERION OF PERFORMANCE WAS ARRIVED AT WITH REASONABLE ACCURACY.

#### PROFILES:

THE FIRST TASK IN EVALUATING THE RESULTS OF THE PROJECT WAS TO SELECT AND ARRANGE THE DATA IN A WAY THAT WILL BEST BRING OUT ANY CONTRAST BETWEEN THE INITIAL TEST SHOWINGS, AND THE FINAL GRADING CRITERION. THE PROFILES DERIVED FOR THIS PURPOSE ARE SHOWN AS:

- (A) THE CANADIAN SOLDIER (CORRECTED SCORES)
- (B) THE CANADIAN SOLDIER (WITHOUT K)
- (C) THE CANADIAN SOLDIER, FIVE GROUP PROFILES
- (D) GROUP PROFILES: OUTSTANDING AND POOR



- (E) GROUP PROFILES: O / S AND F / P
- (F) THE CANADIAN INFANTRY SOLDIER
- (G) THE CANADIAN SOLDIER, LESS INFANTRY
- (H) THE CANADIAN INFANTRY SOLDIER: O / S
- (I) THE CANADIAN INFANTRY SOLDIER: F / P
- (J) THE CANADIAN SOLDIER, LESS INFANTRY: O / S
- (K) THE CANADIAN SOLDIER, LESS INFANTRY: F / P

SUPPORTING THE PROFILES, IS THE TABULATED INFORMATION COMPARED STATISTICALLY. IT IS CONSIDERED ESSENTIAL TO RELATE, FIRST OF ALL, THE CANADIAN SOLDIER TO THE AUTHOR'S NORM FOR AMERICAN MALES. A BREAKDOWN OF THE TOTAL IS THEN MADE INTO THE GROUPS BY CRITERION RATING. THE KEY COMPARISON IS BETWEEN THE COMBINED, "OUTSTANDING" PLUS "SUPERIOR", AND THE "FAIR" PLUS "POOR" GROUPS.

THE GROUP HAS ALSO BEEN DIVIDED INTO TWO SECTIONS WITH THE INFANTRY CORPS FORMING ONE, AND THE COMBINED OTHER CORPS FORMING THE SECOND.

#### THE CANADIAN SOLDIER:

BLAIR, (2) IN HIS STUDY OF ARMY DELINQUENTS ENCOUNTERED THE FACT THAT THE NORMS OF HIS CONTROL GROUPS OF SOLDIERS DIFFERED FROM THAT OF THE TEST AUTHORS. THIS WAS MORE SURPRISING IN THAT HE HAD USED A "MODEL" SELECTION FOR HIS GROUPS, INCLUDING ONLY THOSE WITH NO ARMY CRIME



RECORD. IT SEEMED LOGICAL THEREFORE, IN APPROACHING THE PRESENT STUDY, TO ESTABLISH FIRST A SEPARATE NORM THAT COULD BE CONSIDERED A MEAN OF THE TRAINED SOLDIER. THE WORD TRAINED IS EMPHASIZED CONTINUALLY BECAUSE CONSIDERABLE TRIAL AND ERROR SELECTION HAS ALREADY BEEN APPLIED TO THE GROUP USED.

ACCORDINGLY, A MEAN WAS FOUND FOR THE RESULTS ON EACH SCALE OF THE TEST FOR THE WHOLE GROUP OF 600, THE NUMBER FOR WHOM VALID TEST RESULTS AND RATING SHEETS COULD BE MATCHED. THE K CORRECTION WAS INCLUDED, AND THE FIGURES WERE PLOTTED GRAPHICALLY AGAINST THE AUTHOR'S NORM. THE RESULT IS SHOWN IN FIGURE 1.

IT IS APPARENT IMMEDIATELY THAT THERE IS CONSIDERABLE DIFFERENCE ON ALL SCALES. IT IS SHOWN LATER THAT THE DIFFERENCES ARE SIGNIFICANT AND THAT THIS PRELIMINARY TASK WAS INDEED NECESSARY. HOWEVER, THE SCALES SHOWING THE LARGEST DEVIATION ARE THE "F", "Pd", "Sc", AND "Ma". THESE PEAKS MAY WELL SUGGEST A PATTERN CHARACTERISTIC OF INDIVIDUALS WHO SEEK A CAREER IN THE ARMY.

A PROJECT UNDERTAKEN FOR THE DEFENCE RESEARCH BOARD AT THE UNIVERSITY OF ALBERTA HAS PROVIDED INFORMATION CONCERNING TYPICAL ALBERTA MALES. PAULSON, THOMAS AND SMITH, (6) ESTABLISHED A NORM FOR 312 CIVILIANS LIVING EITHER IN OR CLOSE TO THE PROVINCE. WHILE THE SAMPLE IS



# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

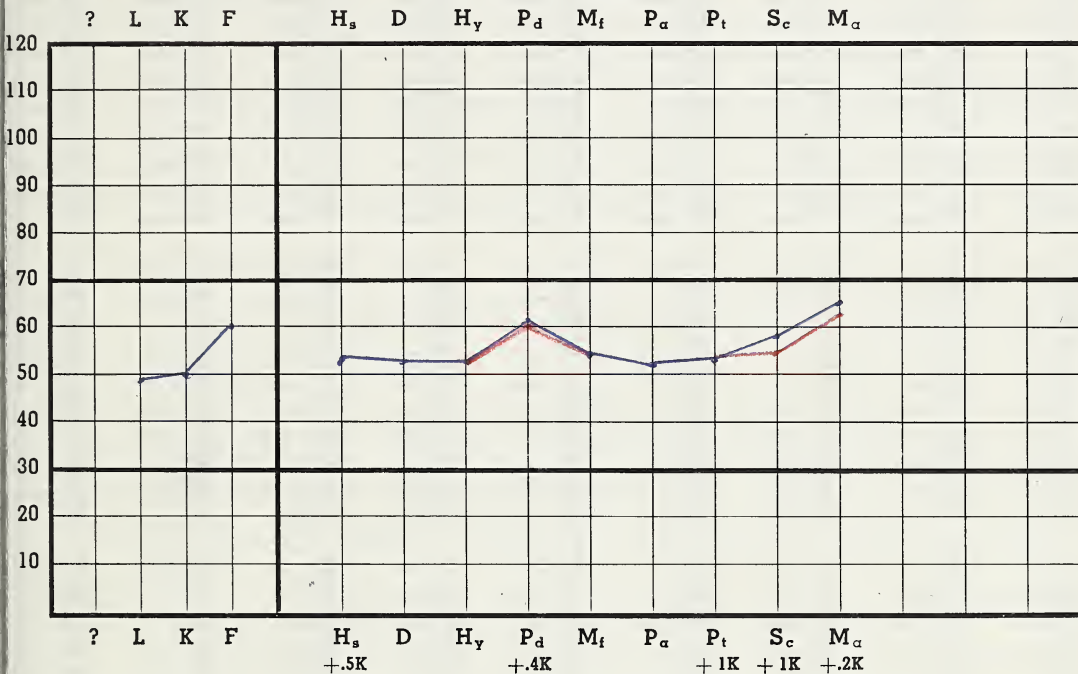
Date \_\_\_\_\_

Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_

Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard Score 49 50 60 53 52 52 61 54 52 53 58 66 \_\_\_\_\_

Score WITHOUT K 53 \_\_\_\_\_ 60 \_\_\_\_\_ 53 55 63 \_\_\_\_\_

K to be added \_\_\_\_\_

Raw Score with K \_\_\_\_\_

### FIGURE 1

THE CANADIAN SOLDIER N - 600

Signature \_\_\_\_\_



A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
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26	26	26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27	27	27
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41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49	49	49
50	50	50	50	50	50	50	50	50	50
51	51	51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55	55	55
A	B	C	D	E	F	G	H	I	J



NOT NATIONAL IN BREADTH, IT IS INTERESTING TO OBSERVE THE DIFFERENCE BETWEEN THE PROFILE OF THIS GROUP AND THAT OF THE SOLDIER. SHOWN AT FIGURE 2 IS THE COMPARISON.

IT WILL BE NOTED THAT PEAKS OCCUR AGAIN AT "F", "Pd", "Sc" AND "Ma". IT IS ALSO APPARENT THAT THE SOLDIER, AS MEASURED BY THE MF SCALE, APPEARS CONSIDERABLY MORE MASCULINE THAN DOES THE CIVILIAN. THIS, IN GENERAL TERMS, MIGHT BE EXPECTED AND IS PROBABLY TRUE.

ANOTHER IMPORTANT OBSERVATION IS THAT THE NEUROTIC TRIAD IS LOW FOR BOTH GROUPS, BUT PARTICULARLY SO FOR THE SOLDIER. ON THE "D" SCALE THERE IS A DIFFERENCE BETWEEN THE TWO WHICH PRODUCES A CRITICAL RATIO OF 2.81, --- AND THE SOLDIER IS ON THE LOW SIDE.

THE MAIN POINT SEEMS TO BE THAT THE PEAKS ON THE SOLDIER PROFILE ARE PECULIAR TO SOLDIERS AS OPPOSED TO CIVILIANS, RATHER THAN TO CANADIANS AS OPPOSED TO AMERICANS. THE PROFILE IN FIGURE 1, THEN, WILL BE REFERRED TO THROUGHOUT AS "THE CANADIAN SOLDIER" PROFILE AND ABBREVIATED NO.

#### STATISTICAL COMPARISON:

TO ENSURE THAT DIFFERENCES APPARENT IN THE GRAPHICAL PICTURE ARE PROPERLY A DISTINCTION BETWEEN



# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Date \_\_\_\_\_  
 Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART

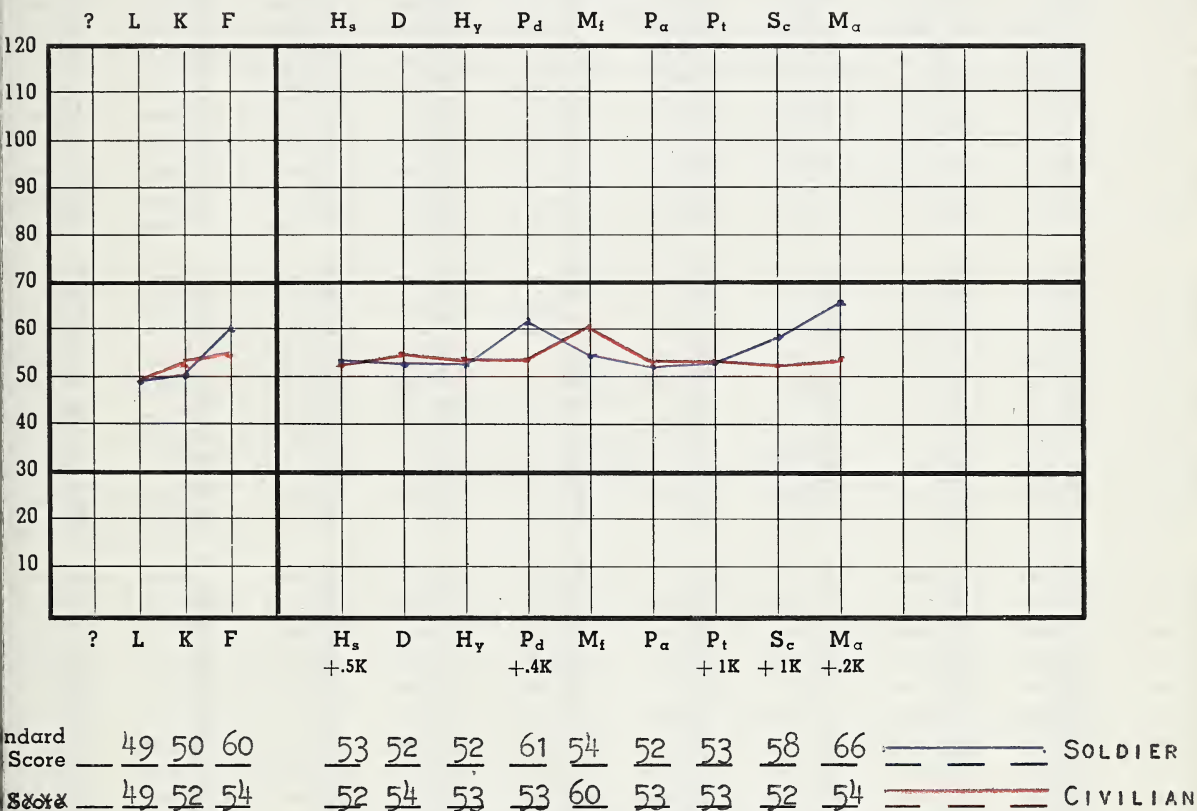


FIGURE 2

THE CDN SOLDIER (N-600)

COMPARED WITH

THE CDN MALE CIVILIAN (N-312)

(PAULSON, THOMAS AND SMITH)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13	13	13
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55	55	55	55	55	55	55	55	55	55
A	B	C	D	E	F	G	H	I	J

THIS GROUP OF SOLDIERS AND THE GROUP USED BY THE AUTHORS IN STANDARDIZING THE TEST, A CRITICAL RATIO FORMULA WAS APPLIED TO THE RESULTS OBTAINED FOR EACH SUBJECT GROUP. THE FIGURES PRESENTED AS "AUTHORS NORMS" WERE CORRECTED TO REPRESENT NORMAL MALES, AND WERE KINDLY PROVIDED BY DR. STARKE R. HATHAWAY IN PERSONAL CORRESPONDENCE WITH DR. D. E. SMITH OF THE UNIVERSITY OF ALBERTA.

THE FORMULA USED IS: -

$$CR = \frac{M_1 - M_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

AND IS DERIVED AND DESCRIBED IN DETAIL BY LINDQUIST (15). A CRITICAL RATIO OF 3.0 OR HIGHER INDICATES THERE WOULD BE AT LEAST 99.9 CHANCES IN 100 THAT THERE IS AN ACTUAL DIFFERENCE.

THE TABULATED COMPARISON IS SHOWN IN TABLE 2.

IT IS AGAIN OBVIOUS THAT THE DIFFERENCES ARE LARGE AND REAL. THE SDs ARE UNIFORM, WITH THE POSSIBLE EXCEPTION OF SC, WHICH GOES UP TO 7.31, AND USUALLY HIGHER THAN THOSE OF THE AUTHORS. THE CRs ARE ALL HIGH, SHOWING SIGNIFICANT DIFFERENCES, BUT PARTICULARLY SO FOR, "Pd",





COMPARISON OF CANADIAN ARMY (TOTAL GROUP)  
WITH TEST AUTHORS' NORMAL MALES

SCALE	ARMY (N-600)		AUTHORS		No	C.R.
	MEAN	S.D.	MEAN	S.D.		
L	3.6	2.12				
K	12.7	4.7				
F	7.0	5.05				
Hs / .5K	12.4	1.24	11.34	3.90	274	4.42
D	17.5	4.77	16.63	4.18	294	2.79
Hy	17.5	4.77	16.49	5.51	345	2.87
Pd / .4K	23.2	4.8	18.86	4.25	274	13.66
Mf	22.5	4.75	20.44	5.13	117	8.41
Pa	8.8	3.63	8.06	3.56	293	2.90
Pt / 1K	24.9	4.96	22.95	4.88	274	5.46
Sc / 1K	26.2	7.31	22.26	5.21	274	8.85
Ma / .2K	23.2	3.26	16.83	3.99	274	23.16

TABLE 2





"Mf", "Sc", AND "Ma".

IN TABLE 3, IS SHOWN A SIMILAR COMPARISON BETWEEN THE CANADIAN SOLDIER AND THE ALBERTA MALE CIVILIAN. AGAIN IT CAN BE SEEN THAT THE SOLDIER IS SIGNIFICANTLY HIGHER ON, "F", "Pd", "Sc" AND "Ma". HOWEVER, AS BECAME APPARENT IN THE PROFILE COMPARISON, THE CIVILIAN IS SIGNIFICANTLY HIGHER ON, "Mf" AND "D".

HAVING DETERMINED THAT THE SOLDIER AS SUCH, IS A SPECIAL KIND OF INDIVIDUAL, IT IS INTENDED NOW TO WORK SOLELY WITH THE SERVICE GROUP. THE DIFFERENCES WITHIN THE SAMPLE WHICH ARE DISCOVERED THROUGH THE EFFICIENCY CRITERION, MUST BE CONSIDERED IN RELATION TEST SCORES.

#### RATING SHEETS

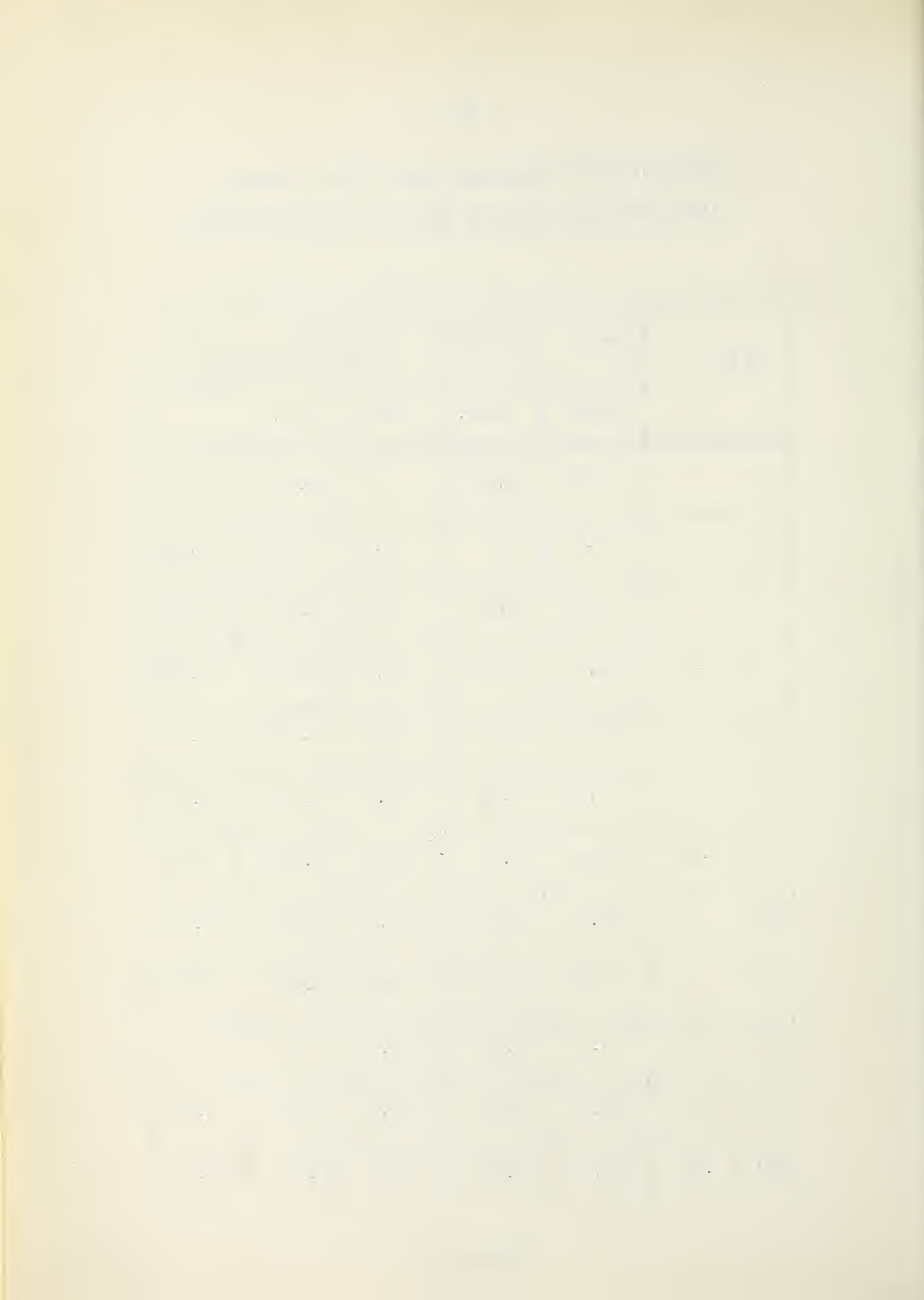
THE PERFORMANCE CRITERION WAS TO BE ARRIVED AT BY COMPLETION OF RATING SHEETS BY OFFICERS SUPERVISING THE SUBJECTS WHILE THE EXERCISE WAS IN PROGRESS. MANY OFFICERS HAD TO BE CONTACTED AND DIFFICULTY WAS ANTICIPATED IN ASSEMBLING RETURNS. ACTUALLY, DUE TO THE SKILLFUL ADMINISTRATIVE ASSISTANCE OF THE BRIGADE STAFF, ALL MEN WERE EVENTUALLY RATED. OF THE ORIGINAL 620 TESTED, 20 ANSWER SHEETS WERE NOT IDENTIFIABLE FOR VARIOUS REASONS, OR WERE INVALIDATED. RATINGS WERE RECEIVED AND RELATED TO TEST RESULTS, FOR THE REMAINING 600.



COMPARISON OF CANADIAN ARMY (TOTAL GROUP)  
WITH PAULSON, THOMAS, SMITH, CIVILIAN MALES

SCALE	ARMY (N-600)		CIVILIAN MALES (N-312)		CR.
	MEAN	S.D.	MEAN	S.D.	
L	3.6	2.12	3.7	2.26	0.67
K	12.7	4.7	13.9	4.65	3.63
F	7.0	5.02	4.8	4.61	6.67
Hs / .5K	12.4	1.24	12.1	3.77	1.36
D	17.5	4.77	18.4	4.40	2.81
HY	17.5	4.77	18.2	4.55	1.84
Pd / .4K	23.2	4.8	20.5	4.57	8.44
MF	22.5	4.75	25.2	4.35	8.71
PA	8.8	3.63	9.0	3.20	0.80
PT / 1K	24.9	4.96	24.9	5.43	-
Sc / 1K	26.2	7.31	23.5	7.06	5.40
MA / .2K	23.2	3.26	18.4	3.77	19.20

TABLE 3



THE SIGNIFICANT CHARACTERISTIC IN THE RATING SHEET WAS CONSIDERED TO BE NUMBER 7, "OVERALL EFFICIENCY". FOR THIS STUDY, SOCIAL SHORTCOMINGS, PERSONAL PROBLEMS, AND IDIOSYNCRASIES ARE ONLY IMPORTANT AS THEY EFFECT PERFORMANCE AS A SOLDIER. HENCE, ACCORDING TO THE RATING ASSIGNED IN COLUMN 7 OF THE SHEET, THE WHOLE GROUP WAS DIVIDED INTO SUB-GROUPS WITH NUMBERS AS FOLLOWS:-

<u>GRADING</u>	<u>NUMBER</u>
OUTSTANDING	14
SUPERIOR	110
GOOD	318
FAIR	138
POOR	20

MEANS WERE FOUND ON EACH SCALE OF THE TEST FOR EACH GROUP. THUS THE VARIOUS MEAN PROFILES COULD BE PLOTTED. THE MEANS AND STANDARD DEVIATIONS ARE SHOWN IN TABLE 4. THE PROFILES ARE SHOWN IN FIGURES 3 - 7.

THE PATTERN OF EACH GROUP NATURALLY FOLLOWS THAT OF THE NO PROFILE. HOWEVER, IT IS APPARENT THAT THOSE GRADED, "POOR", ARE HIGHER ON THE PEAKS, AND THOSE GRADED "OUTSTANDING", ARE LOWER ON THE PEAKS THAN THE NORM. ON THE HS, HY, AND MF SCALES THE "POOR" GROUP REGISTERS LOWER, BUT BOTH GROUPS ARE WELL WITHIN THE NORMALCY LEVEL. A DEFINITE TENDENCY IS APPARENT



MEANS AND STANDARD DEVIATIONS  
FOR GRADED GROUPS

ALL

SCALE	OUTSTANDING N - 14		SUPERIOR N - 110		GOOD N - 318		FAIR N - 138		POOR N - 20		TOTAL N - 600	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
L	3.8	1.77	3.6	2.28	3.5	2.08	3.9	2.17	4.1	2.41	3.6	2.12
K	16.6	5.43	13.0	4.58	12.1	4.62	13.1	4.88	13.0	5.28	12.7	4.70
F	5.0	4.05	5.8	3.55	7.5	5.30	7.2	5.02	8.1	5.37	7.0	5.05
Hs/.5K	12.3	4.09	11.3	3.12	11.4	3.59	12.0	4.21	11.1	2.56	12.4	1.24
D	15.8	2.24	16.8	4.53	17.8	4.05	17.7	4.70	17.2	3.59	17.5	4.77
Hy	19.1	3.10	17.3	3.98	17.3	4.30	17.8	4.49	17.4	3.11	17.5	4.77
Pd/.4K	20.3	3.62	22.7	4.37	23.1	5.30	24.0	4.56	24.6	4.55	23.2	4.80
Mf	24.9	5.16	23.5	4.74	22.3	4.38	21.9	5.04	21.1	3.30	22.5	4.75
Pa	7.8	3.10	8.3	3.26	9.0	3.73	8.7	3.30	8.2	4.86	8.8	3.63
Pt/.1K	22.6	3.89	23.9	4.05	25.3	5.56	24.8	4.73	24.7	6.13	24.9	4.96
Sc/.1K	24.5	5.76	24.1	5.68	26.8	7.85	26.7	6.57	28.6	7.91	26.2	7.31
Ma/.2K	20.4	4.25	22.6	4.37	22.8	4.22	23.5	4.32	24.3	3.45	23.2	3.26

TABLE 4







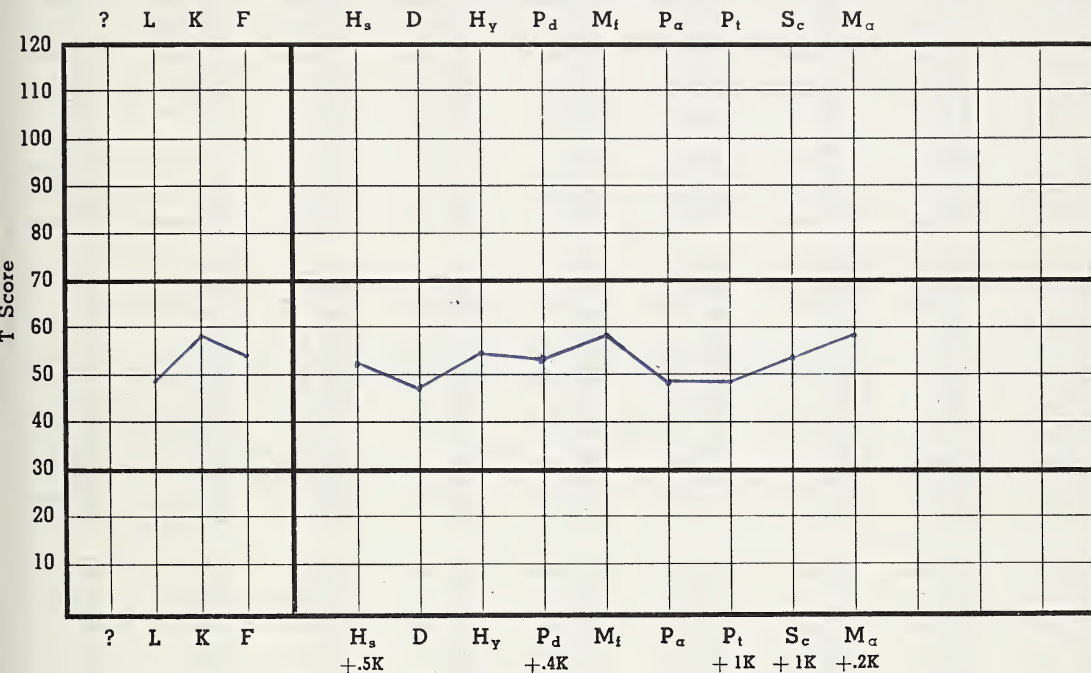
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Name \_\_\_\_\_ Date \_\_\_\_\_  
 Address \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Occupation \_\_\_\_\_ Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard T Score: 49 58 55 52 47 55 54 59 49 49 54 59 — — —  
 Raw Score: — — — — — — — — — — — — — — —

K to be added: — — — — —  
 Raw Score with K: — — — — —

### FIGURE 3

TOTAL GROUP --- OUTSTANDING (N-14)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
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4	4	4	4	4	4	4	4	4	4
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A	B	C	D	E	F	G	H	I	J

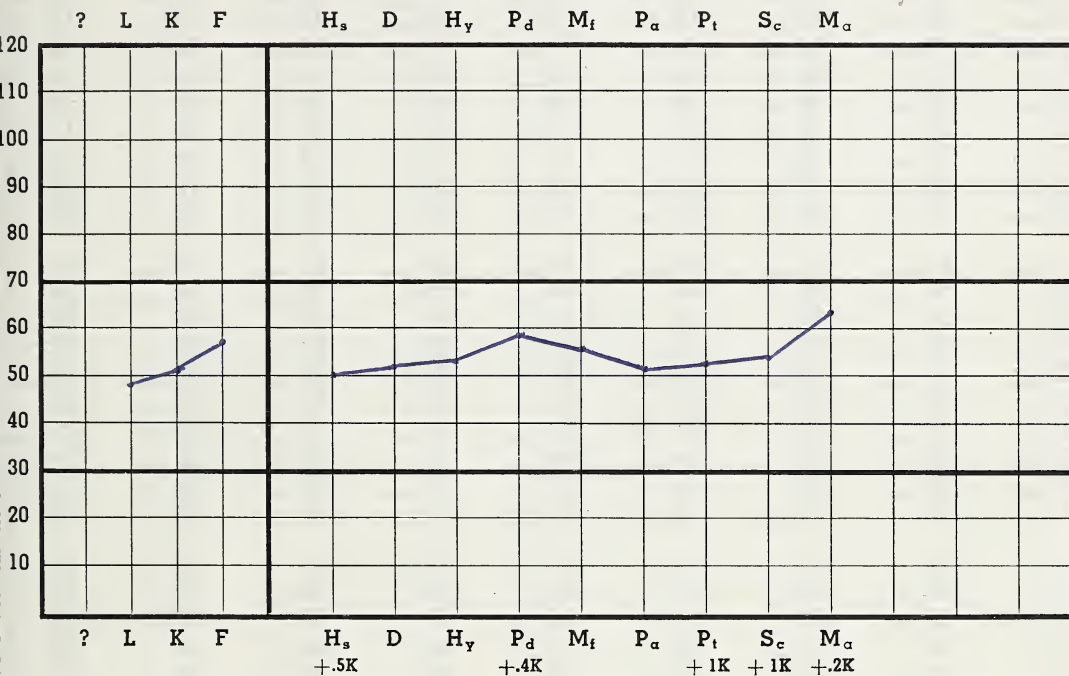
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Date \_\_\_\_\_  
 Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard Score 49 51 57 50 51 52 59 56 51 52 53 64 \_\_\_\_\_  
 Score \_\_\_\_\_

K to be added \_\_\_\_\_

Raw Score with K \_\_\_\_\_

### FIGURE 4

TOTAL GROUP --- SUPERIOR (N-110)

Signature \_\_\_\_\_



A	B	C	D	E	F	G	H	I	J
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A	B	C	D	E	F	G	H	I	J

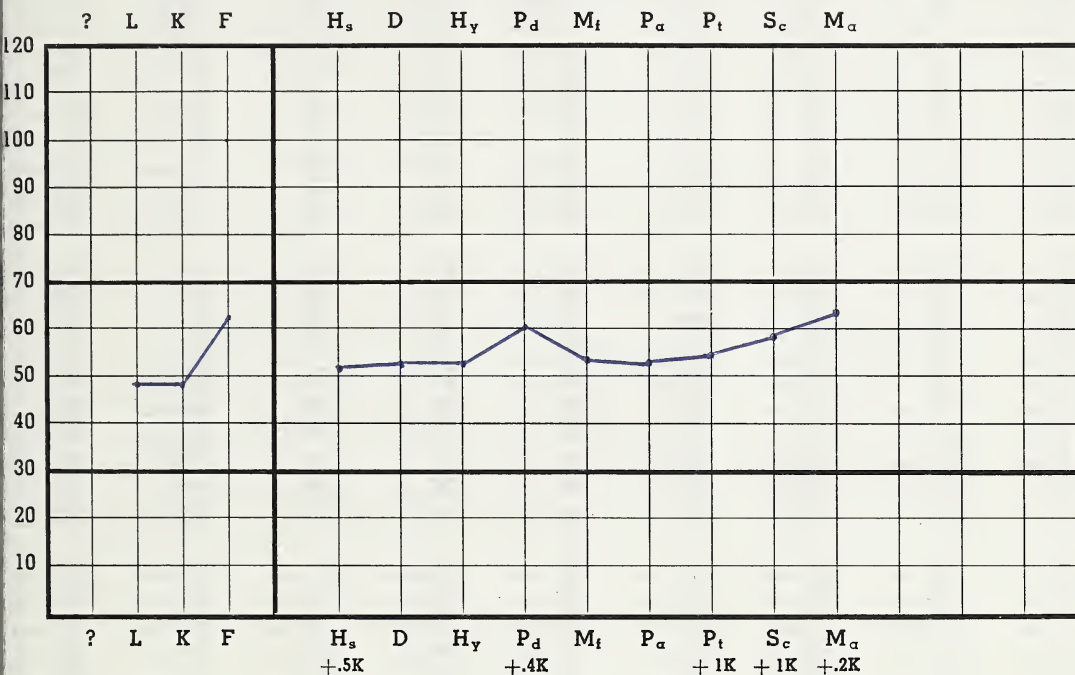
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Date \_\_\_\_\_  
 Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard Score 49 49 61 51 52 52 60 54 53 55 59 64 — — —

Score — — — — — — — — — — — — — — —

K to be added — — — — —

Raw Score with K — — — — —

FIGURE 5

TOTAL GROUP --- GOOD (N-318)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
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A	B	C	D	E	F	G	H	I	J



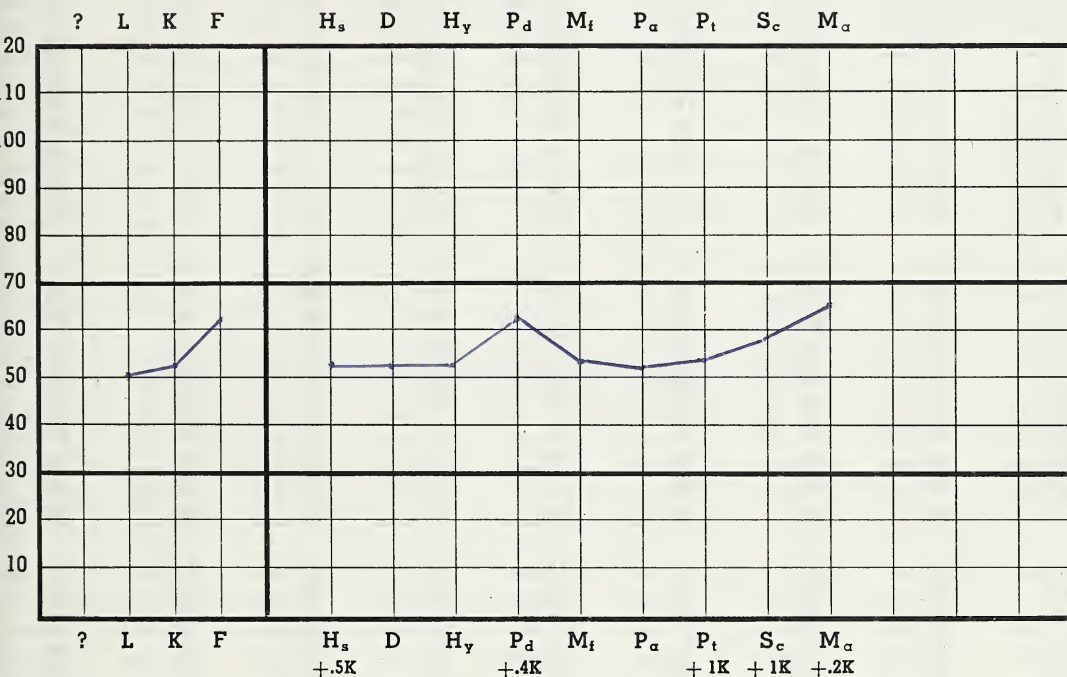
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Date \_\_\_\_\_  
 Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard Score \_\_\_\_\_  
 Raw Score \_\_\_\_\_

K to be added \_\_\_\_\_  
 Raw Score with K \_\_\_\_\_

### FIGURE 6

TOTAL GROUP --- FAIR (N-138)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18	18	18
19	19	19	19	19	19	19	19	19	19
20	20	20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27	27	27
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41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49	49	49
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51	51	51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55	55	55
A	B	C	D	E	F	G	H	I	J



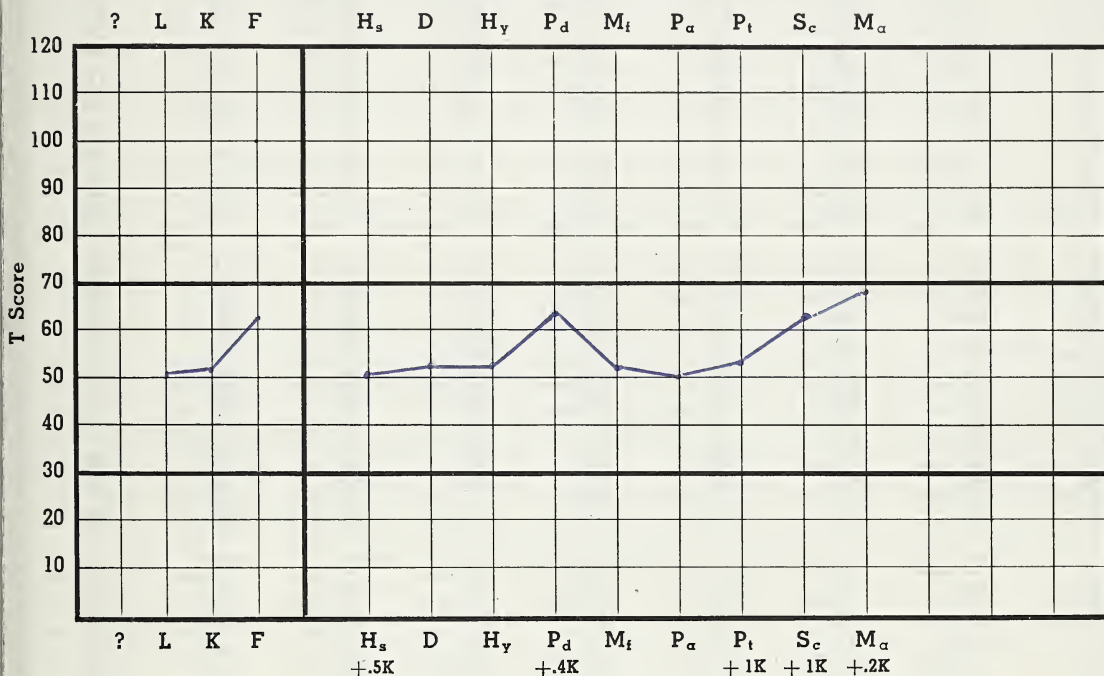
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Name \_\_\_\_\_ Date \_\_\_\_\_  
 Address \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Occupation \_\_\_\_\_ Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard T Score 50 51 62 50 52 52 63 51 50 53 62 69 — — —  
 Raw Score — — — — — — — — — — — — — — —

K to be added — — — — —  
 Raw Score with K — — — — —

FIGURE 7

TOTAL GROUP --- POOR (N-20)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12
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16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18	18	18
19	19	19	19	19	19	19	19	19	19
20	20	20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26
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28	28	28	28	28	28	28	28	28	28
29	29	29	29	29	29	29	29	29	29
30	30	30	30	30	30	30	30	30	30
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32	32	32	32	32	32	32	32	32	32
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36	36	36	36	36	36	36	36	36	36
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40	40	40	40	40	40	40	40	40	40
41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49	49	49
50	50	50	50	50	50	50	50	50	50
51	51	51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55	55	55

A	B	C	D	E	F	G	H	I	J
---	---	---	---	---	---	---	---	---	---

THEREFORE, FOR POORER SOLDIERS TO SHOW A MORE IRREGULAR PROFILE THAN THEIR MORE EFFICIENT COMRADES. THIS TREND WAS ANTICIPATED, BUT IT NOW BECOMES NECESSARY TO STUDY IT CAREFULLY TO DECIDE UPON ITS SIGNIFICANCE.

TO EMPHASIZE THE CONTRAST IN EXTREMES, THE "OUTSTANDING" AND "POOR" PROFILES ARE PLOTTED IN FIGURE 8.

HOWEVER, CONSIDERING THE LARGE NUMBER IN THE WHOLE PROJECT, IT DID NOT APPEAR WISE TO WORK WITH THE SMALL NUMBERS INCLUDED IN THE EXTREME GROUPS. IT WAS FELT THAT AN ADEQUATE DISTINCTION IN PERFORMANCE COULD BE MADE BY COMBINING THE "OUTSTANDING" AND "SUPERIOR" SUB-GROUPS AS ONE, AND CONTRASTING THE RESULTING MEAN PROFILE WITH THE ONE OBTAINED BY COMBINING THE "FAIR" AND "POOR" SUB-GROUPS.

THESE PROFILES ARE SHOWN IN FIGURE 9.

ALTHOUGH THE DIFFERENCES HAVE BEEN SOFTENED AS FAR AS MEAN TEST RESULTS ARE CONCERNED, THE LARGER NUMBERS INVOLVED MAKE THE SUBJECT GROUPS MORE TYPICAL, AND GENERALIZATIONS FROM SUCH A COMPARISON CAN BE ATTEMPTED WITH MORE CONFIDENCE. THERE IS STILL AN APPARENT DIFFERENCE AT THE PEAK POINTS, AND A STATISTICAL COMPARISON IS NECESSARY TO DISCOVER THE SIGNIFICANCE OF THESE DIFFERENCES.





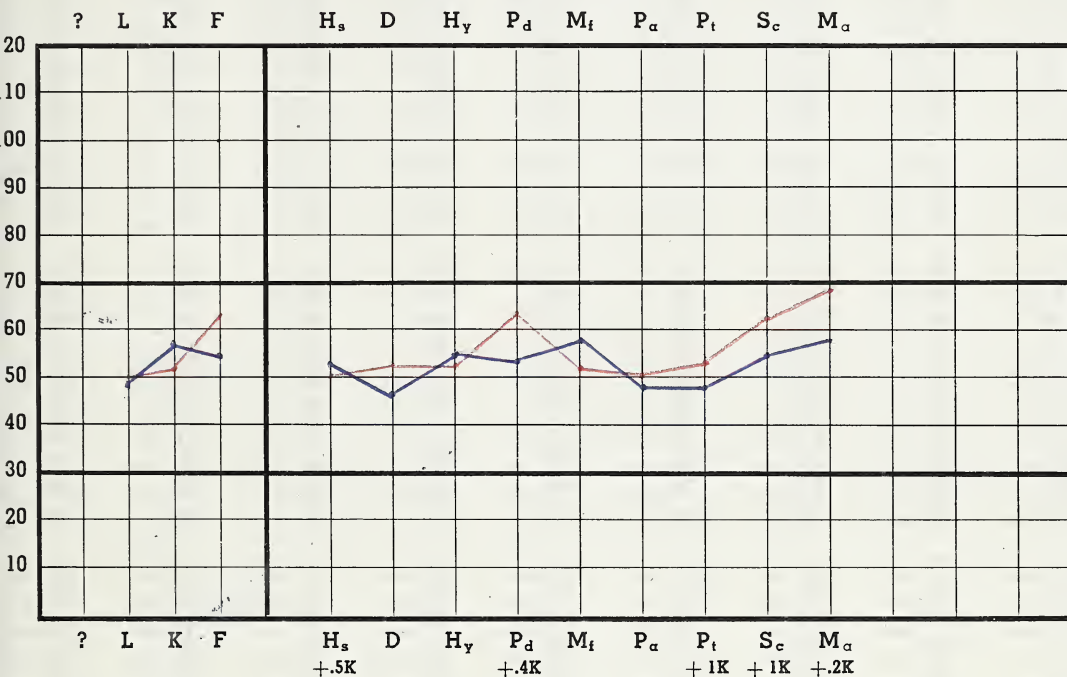
# The Minnesota Multiphasic Personality Inventory

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Date \_\_\_\_\_  
 Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard Score	49	58	55	52	47	55	54	59	49	49	54	59	—	—	—	O
Score	50	51	62	50	52	52	63	51	50	53	62	69	—	—	—	P
K to be added	—															
Raw Score with K	—															

### FIGURE 8

TOTAL GROUP - OUTSTANDING (N-14)

COMPARED WITH

TOTAL GROUP - POOR (N-20)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12
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14	14	14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17
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20	20	20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26
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28	28	28	28	28	28	28	28	28	28
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38	38	38	38	38	38	38	38	38	38
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41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42
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44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48	48	48
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51	51	51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55	55	55
A	B	C	D	E	F	G	H	I	J

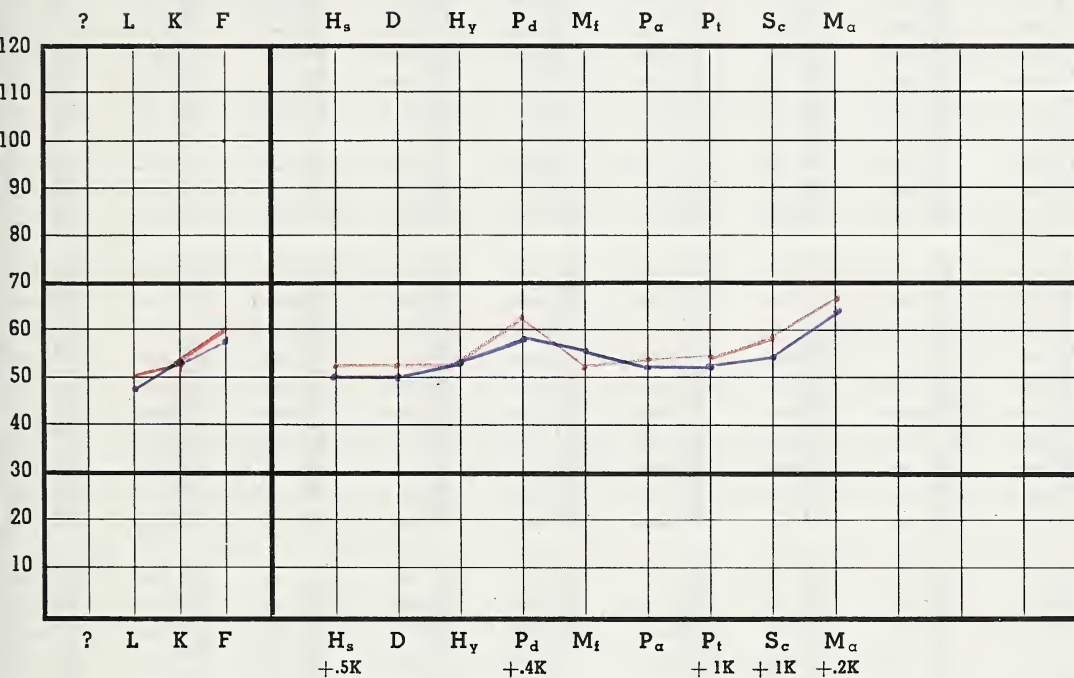
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Date \_\_\_\_\_  
 Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard Score --- 48 52 57    50 50 52 58 56 51 51 54 64    O / S  
 Raw Score --- 50 52 60    52 52 52 63 52 52 53 59 66    F / P

K to be added \_\_\_\_\_  
 Raw Score with K \_\_\_\_\_

### FIGURE 9

TOTAL GROUP --- O / S (N - 124)

COMPARED WITH

TOTAL GROUP --- F / P (N - 158)

Signature \_\_\_\_\_



A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17
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23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24
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43	43	43	43	43	43	42	43	43	43
44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47
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51	51	51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55	55	55
A	B	C	D	E	F	G	H	I	J



MEANS AND STANDARD DEVIATIONS FOR THE O / S  
AND THE F / P GROUPS ARE TABULATED IN TABLE 5.

PATTERN:

IN EXAMINING THE PATTERN WHICH CONSISTENTLY APPEARS IN ALL GROUPS, IT IS NOTED FIRST THAT THE F SCALE IS SIGNIFICANTLY HIGHER IN POOR SOLDIERS. THIS SCALE IS ESSENTIALLY A VALIDATING DEVICE AND IS NOT ITSELF DIAGNOSTIC. IT CONSISTS OF A NUMBER OF QUESTIONS USUALLY ANSWERED IN ONE WAY BY NORMAL PEOPLE. HIGH SCORES SUGGEST SOME DEVIATION FROM THE CONVENTIONAL REPLY. HOWEVER, WHEN ACCOMPANIED BY VERY HIGH SCORES ON SOME OF THE OTHER SCALES, A HIGH SCORE ON THE F IS PROBABLY A VALID RESULT. IN THIS CASE THE TENDENCY TOWARDS HIGH PD AND HIGH SC WOULD INEVITABLY RAISE THE SCORE ON F. IT IS REGARDED, THEN, AS AN ADDITIONAL FACTOR IN DEMONSTRATING THE DIFFERENCE BETWEEN THE TWO GROUPS, BUT WITHOUT SPECIAL SIGNIFICANCE IN ITSELF.

THE NEXT INTERESTING POINT IN EXAMINING THE PATTERN IS THE CONSISTENTLY LOW SCORES ON THE THREE SCALES FORMING THE NEUROTIC TRIAD, Hs, D, AND Hy. NOT ONLY IS THERE LITTLE DIFFERENCE BETWEEN SCORES FOR EACH OF THE GRADED GROUPS, BUT ALL ARE LOWER



CORRECTED RAW SCORE MEANS

AND

STANDARD DEVIATIONS

TOTAL GROUP

OUTSTANDING & SUPERIOR N - 124			FAIR & POOR N - 158		CRITICAL RATIO
SCALE	MEAN	SD	MEAN	SD	C.R.
L	3.6	2.06	3.9	2.26	1.16
K	13.4	4.82	13.1	4.90	.05
F	5.7	3.61	7.3	5.09	3.08
Hs/.5k	11.4	3.12	11.9	4.01	1.17
D	16.7	4.29	17.6	4.71	1.67
Hy	17.5	3.95	17.8	4.13	.59
Pd/.4k	22.4	4.48	24.1	4.44	3.17
Mf	23.6	5.08	21.8	4.86	3.01
Pa	8.2	3.37	8.6	3.62	.96
Pt/1k	23.7	5.19	24.8	4.87	1.81
Sc/1k	24.2	5.46	26.9	6.95	3.65
Ma/.2k	22.3	4.67	23.6	4.25	2.41

TABLE 5



THAN THOSE FOR CANADIAN CIVILIANS AND ARE CLOSE TO THE AUTHORS' NORMS. IT WOULD APPEAR FROM THIS THAT THE SELECTION DEVICES TO WHICH CANADIAN SOLDIERS ARE EXPOSED, SCREEN OUT MEN WITH NEUROTIC TENDENCIES.

THE HIGH SCORES ON MF ARE DIFFICULT TO UNDERSTAND IN THE LIGHT OF THE AUTHORS' PRELIMINARY WORK. THE NORM GIVEN IN THE TEST MANUAL, (13), - "IS BASED UPON RESPONSES OF 117 MALES. OF THESE 54 PER CENT WERE ENGINEERS OF VARIOUS AGES AND 46 PER CENT WERE UNSELECTED ARMY NON-COMMISSIONED MEN." IT IS NOTED THAT IN THE CURRENT PROJECT, THE BETTER SOLDIERS ARE CONSIDERABLY HIGHER THAN THE POORER. INSPECTION OF SOME OF THE TEST RESULTS SUGGESTS THAT EDUCATION AND A REFINED HOME BACKGROUND TEND TO RAISE THE SCORE ON THIS SCALE. THIS POSSIBILITY IS CONFIRMED BY STUDIES UNDERTAKEN BY PAYNE (16).

THE PD AND SC SCALES SUGGEST THE MOST FRUITFUL FIELD FOR INQUIRY AS TO PERSONALITY DEVIATIONS WHICH INFLUENCE ADJUSTMENT UNDER THE STRESS OF A TASK SUCH AS THE EXERCISE. THE NO PROFILE INDICATES THAT THE CANADIAN SOLDIER GENERALLY, TENDS TO SCORE HIGH ON THESE SCALES. HOWEVER, WITHIN THAT PROFILE THERE IS A SIGNIFICANT DIFFERENCE IN MEAN



SCORE BETWEEN THOSE WHO CAN PERFORM THEIR DUTIES SATISFACTORILY AND THOSE WHO BECOME INEFFICIENT WHEN FACED WITH AN UNUSUAL OR DIFFICULT ENVIRONMENT.

THE MEAN SCORE ON MA IS HIGH FOR ALL GROUPS, AND IS NOT SIGNIFICANTLY DIFFERENT WHEN GROUPS ARE COMPARED. PERHAPS THE REASON THERE IS NOT MORE DIFFERENCE IS THAT THE ACTIVITY INDICATED BY THIS SCALE MIGHT BE DIRECTED PROPERLY INTO USEFUL CHANNELS. SEVERAL OF THE MEN GRADED "OUTSTANDING" SHOWED HIGH SCORES ON THIS SCALE. BY INSPECTION IT IS NOTED THAT POORER SOLDIERS SCORING HIGH ON MA ARE USUALLY HIGH ON SC OR PD.

#### INFANTRY CORPS COMPARED WITH "OTHERS":

IN COMPILING STATISTICS THROUGHOUT THIS WORK, THE INFANTRY RESULTS WERE KEPT SEPARATE FROM THE OTHER CORPS.

THIS ARRANGEMENT PROVIDED A LARGE GROUP OF ESSENTIALLY COMBATANT SOLDIERS AND A SECOND GROUP OF MEN, PRIMARILY SOLDIER TRADESMEN. IT IS NOTED, OF COURSE, THAT DESPITE THEIR COMBATANT ROLE, THE RCA SAMPLE IS INCLUDED IN THE SECOND GROUP.





IT IS INTERESTING NOW TO OBSERVE THE MEAN PROFILE COMPARISON OF THESE TWO GROUPS. THE RESULTS ARE SHOWN IN FIGURE 10. AS MIGHT BE EXPECTED, THE TRADESMAN GROUP SHOWS LESS POSITIVE DEVIATION GENERALLY THAN DOES THE FIGHTING SOLDIER. HOWEVER, THE IMPLICATIONS OF ANY POSSIBLE DISTINCTION ARE NOT DIRECTLY THE OBJECT OF THIS INQUIRY.

THE INCLUSION OF THIS MATERIAL IS INTENDED TO DISCOVER WHETHER OR NOT THE DIFFERENCE BETWEEN GOOD AND POOR INFANTRY SOLDIERS IS APPROXIMATELY THE SAME AS THAT BETWEEN GOOD AND POOR SOLDIERS OF THE SERVICES. HENCE THE SAME BREAKDOWN HAS BEEN USED AS FOR THE TOTAL GROUP. THE MEAN PROFILE FOR THE INFANTRY O / S WAS PLOTTED AGAINST THAT FOR THE INFANTRY, F / P, AND THE RESULTS ARE SHOWN IN FIGURE 11.

AGAIN THE MEAN PROFILE FOR THE OTHER CORPS, O / S, WAS PLOTTED AGAINST THAT FOR THE OTHER CORPS, F / P, AND THE RESULTS ARE SHOWN IN FIGURE 12.

THE STATISTICAL COMPARISON FOR EACH OF THESE DIVISIONS IS SHOWN IN TABLES 6 AND 7. IT IS NOTED THAT THE CR APPROACHES THE SIGNIFICANT LEVEL OF 3.0 ON THE "Pd" AND "Sc" SCALES FOR ALL CORPS. THERE IS A RELIABLE DIFFERENCE BETWEEN THE INFANTRY GROUPS ON THE MF SCALE,

THE  
JOURNAL  
OF THE  
ROYAL ANTHROPOLOGICAL INSTITUTE  
VOLUME 18  
PART 1  
1888  
LONDON  
PUBLISHED BY THE INSTITUTE  
1888

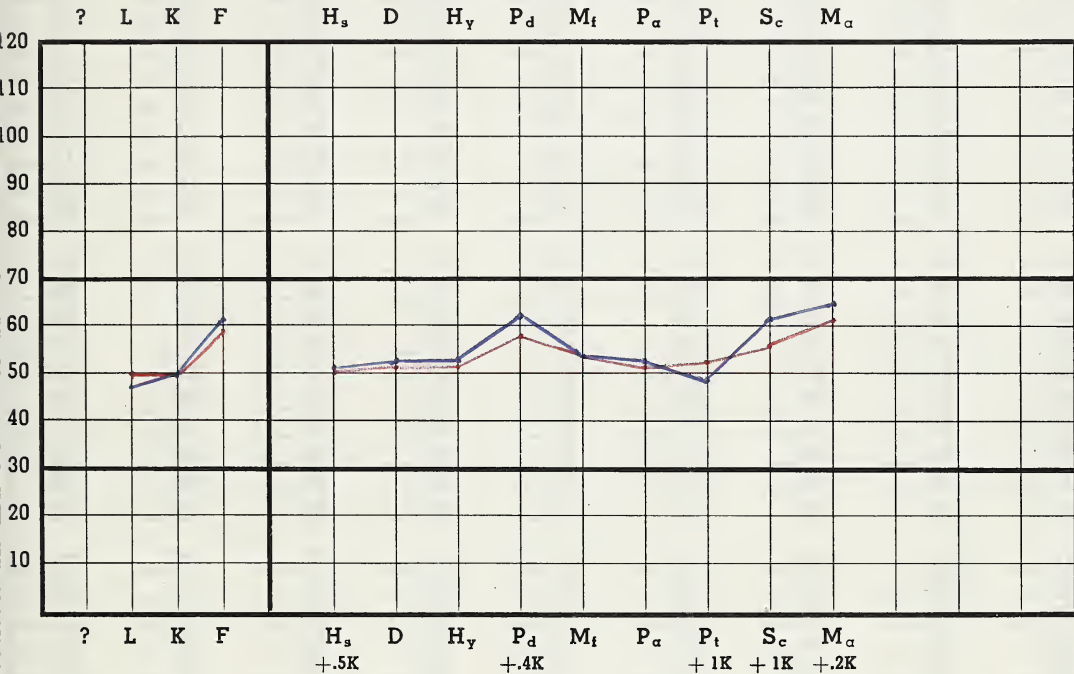
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Date \_\_\_\_\_  
 Address \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Location \_\_\_\_\_ Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard Score	<u>48</u>	<u>50</u>	<u>61</u>	<u>51</u>	<u>52</u>	<u>52</u>	<u>62</u>	<u>54</u>	<u>53</u>	<u>49</u>	<u>61</u>	<u>65</u>	_____	INF
Score	<u>50</u>	<u>50</u>	<u>59</u>	<u>50</u>	<u>51</u>	<u>51</u>	<u>58</u>	<u>54</u>	<u>51</u>	<u>53</u>	<u>56</u>	<u>61</u>	_____	OTHERS
K to be added	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	
Raw Score with K	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	

FIGURE 10  
 INFANTRY CORPS (N-320)  
 COMPARED WITH  
 OTHER CORPS (N-280)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
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47	47	47	47	47	47	47	47	47	47
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A	B	C	D	E	F	G	H	I	J

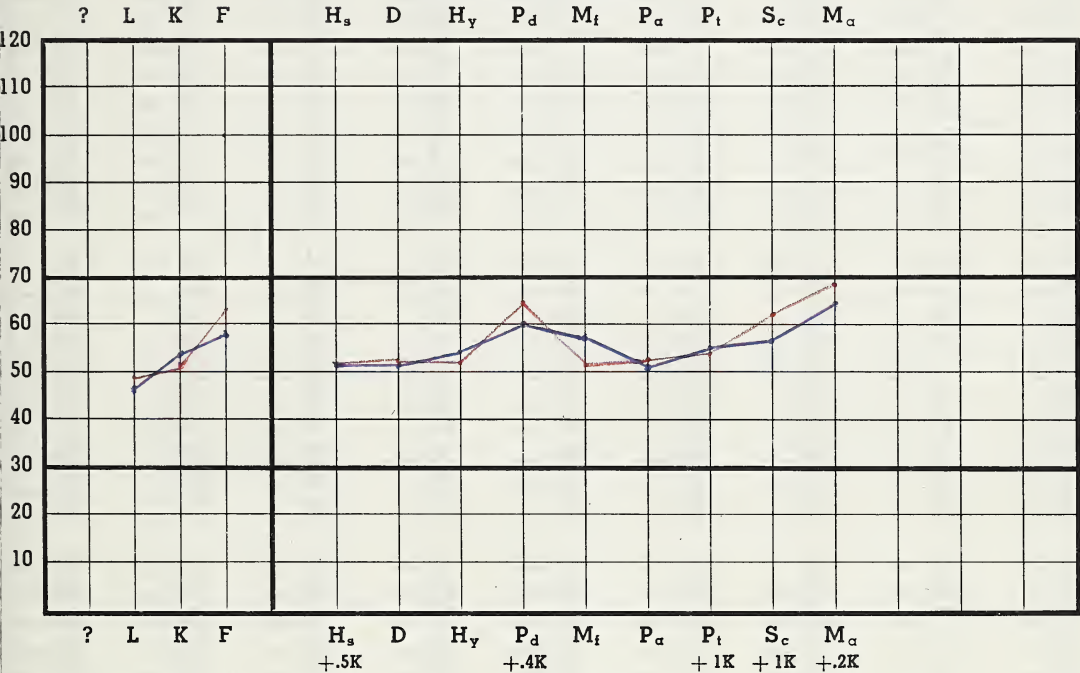


The Minnesota Multiphasic Personality Inventory  
RECORDING SHEET

Date \_\_\_\_\_  
Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

PROFILE CHART



Standard Score \_\_\_\_\_ 47 53 58 51 51 54 60 58 51 55 57 65 \_\_\_\_\_ O / S  
Percentile \_\_\_\_\_ 49 51 63 51 52 52 65 52 52 54 62 69 \_\_\_\_\_ F / P  
K to be added \_\_\_\_\_  
Raw Score with K \_\_\_\_\_

FIGURE 11

INFANTRY CORPS - O / S (N - 50)  
COMPARED WITH  
INFANTRY CORPS - F / P (N - 93)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
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A	B	C	D	E	F	G	H	I	J



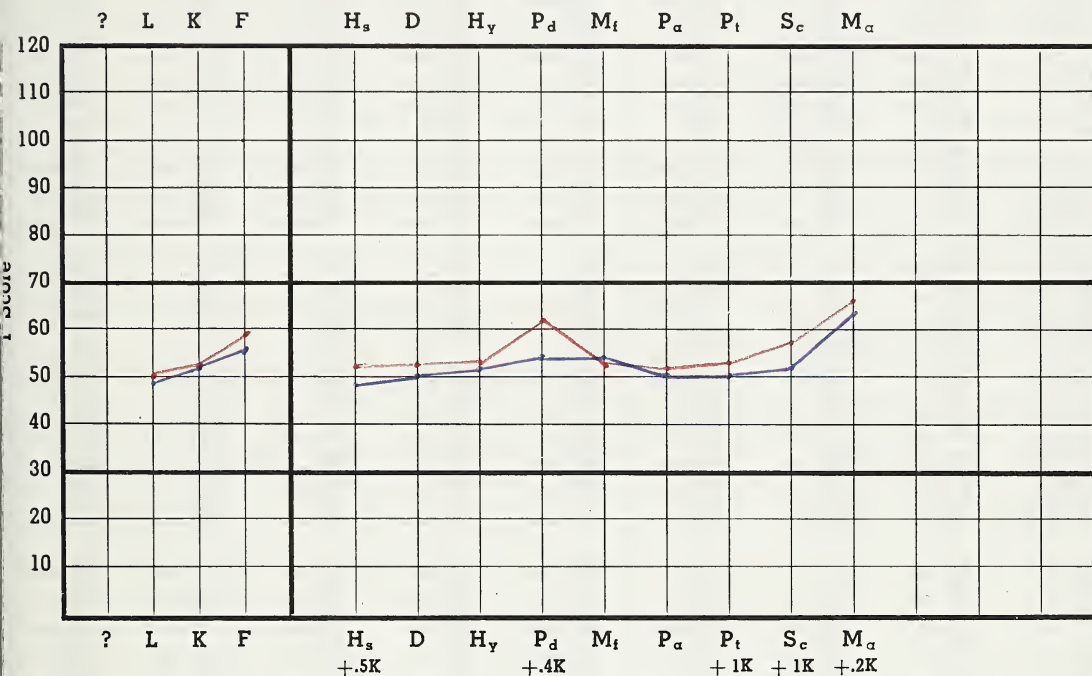
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

Name \_\_\_\_\_ Date \_\_\_\_\_  
 Address \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 Occupation \_\_\_\_\_ Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



Standard Score \_\_\_\_\_  
 Raw Score \_\_\_\_\_  
 K to be added \_\_\_\_\_  
 Raw Score with K \_\_\_\_\_

### FIGURE 12

OTHER CORPS - O / S (N - 74)

COMPARED WITH

OTHER CORPS - F / P (N - 93)

Signature \_\_\_\_\_

A	B	C	D	E	F	G	H	I	J
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
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54	54	54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55	55	55
A	B	C	D	E	F	G	H	I	J

CORRECTED RAW SCORE MEANS  
AND STANDARD DEVIATIONS

INFANTRY CORPS

OUTSTANDING & SUPERIOR N - 50			FAIR AND POOR N - 65		
SCALE	MEAN	SD	MEAN	SD	C.R.
L	3.32	1.78	3.78	2.45	1.16
K	14.20	4.53	13.20	5.54	1.06
F	6.08	2.79	8.47	4.63	3.43
Hs/.5k	11.94	2.95	11.78	4.20	.24
D	17.24	3.32	17.73	5.15	.62
HY	18.68	1.66	18.07	4.32	1.04
Pd/.4k	23.22	3.96	25.13	4.25	2.47
MF	24.74	3.30	21.55	5.30	3.95
PA	8.64	2.79	8.83	3.20	.34
Pt/.1k	25.10	4.14	24.93	5.20	.008
Sc/.1k	26.08	4.36	28.33	6.51	2.21
MA/.2k	22.86	2.49	24.18	4.30	2.06

TABLE 6



CORRECTED RAW SCORE MEANS  
AND STANDARD DEVIATIONS

"OTHER" CORPS

OUTSTANDING & SUPERIOR N - 74			FAIR & POOR N - 93		
SCALE	MEAN	SD	MEAN	SD	C.R.
L	3.8	2.18	4.0	6.37	.28
K	12.9	4.86	13.0	4.48	.14
F	5.5	4	6.4	4.36	1.38
Hs/.5k	11.0	3.39	11.9	4.07	1.57
D	16.4	4.67	17.5	4.51	1.53
HY	16.7	4.72	17.5	4.35	1.12
Pd/.4k	20.5	8.93	23.4	4.17	2.57
MF	22.9	5.71	22.0	4.56	1.10
PA	7.9	3.66	8.5	3.78	1.04
PT/.1k	22.8	5.38	24.6	5.18	2.18
Sc/.1k	22.9	5.86	25.9	7.06	3.00
MA/.2k	22.0	5.23	23.2	4.05	1.62

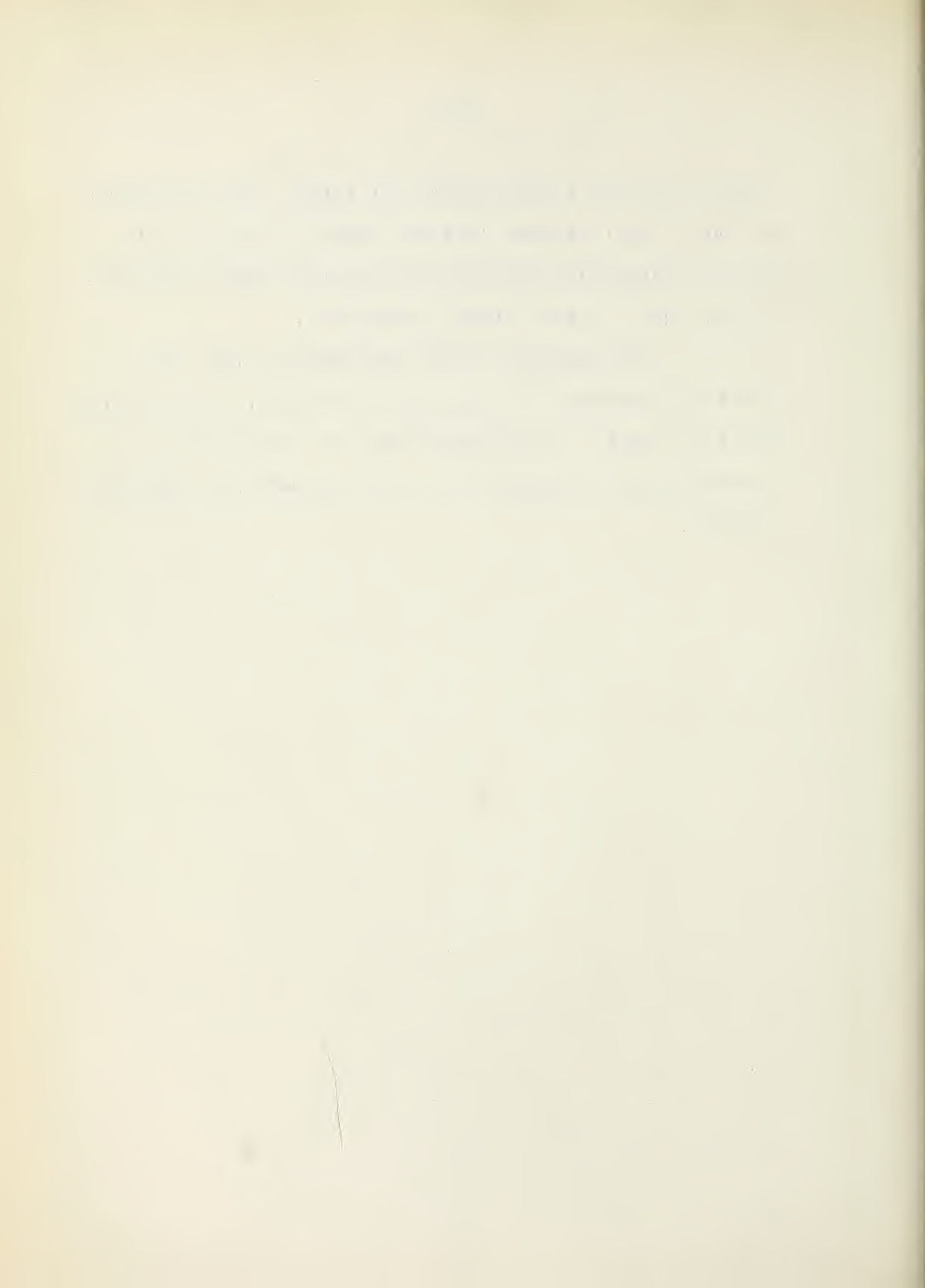
TABLE 7





--WITH THE POOR SOLDIER BEING THE LOWER. THE DIFFERENCE ON THE F SCALE BETWEEN INFANTRY GROUPS IS AGAIN TAKEN TO BE A SUPPORTING FACTOR IN THE HIGH PD AND SC RESULTS, RATHER THAN A TREND TOWARDS INVALIDITY.

THE SOLDIER PATTERN NOW BECOMES FIRM, AND WHATEVER BREAKDOWN IS USED CERTAIN GENERALIZATIONS APPEAR TO BE IN ORDER. TO CONSIDER THESE ON A RELATIVELY BROADER PLANE THE RESULTS WILL BE REVIEWED IN A SEPARATE CHAPTER.



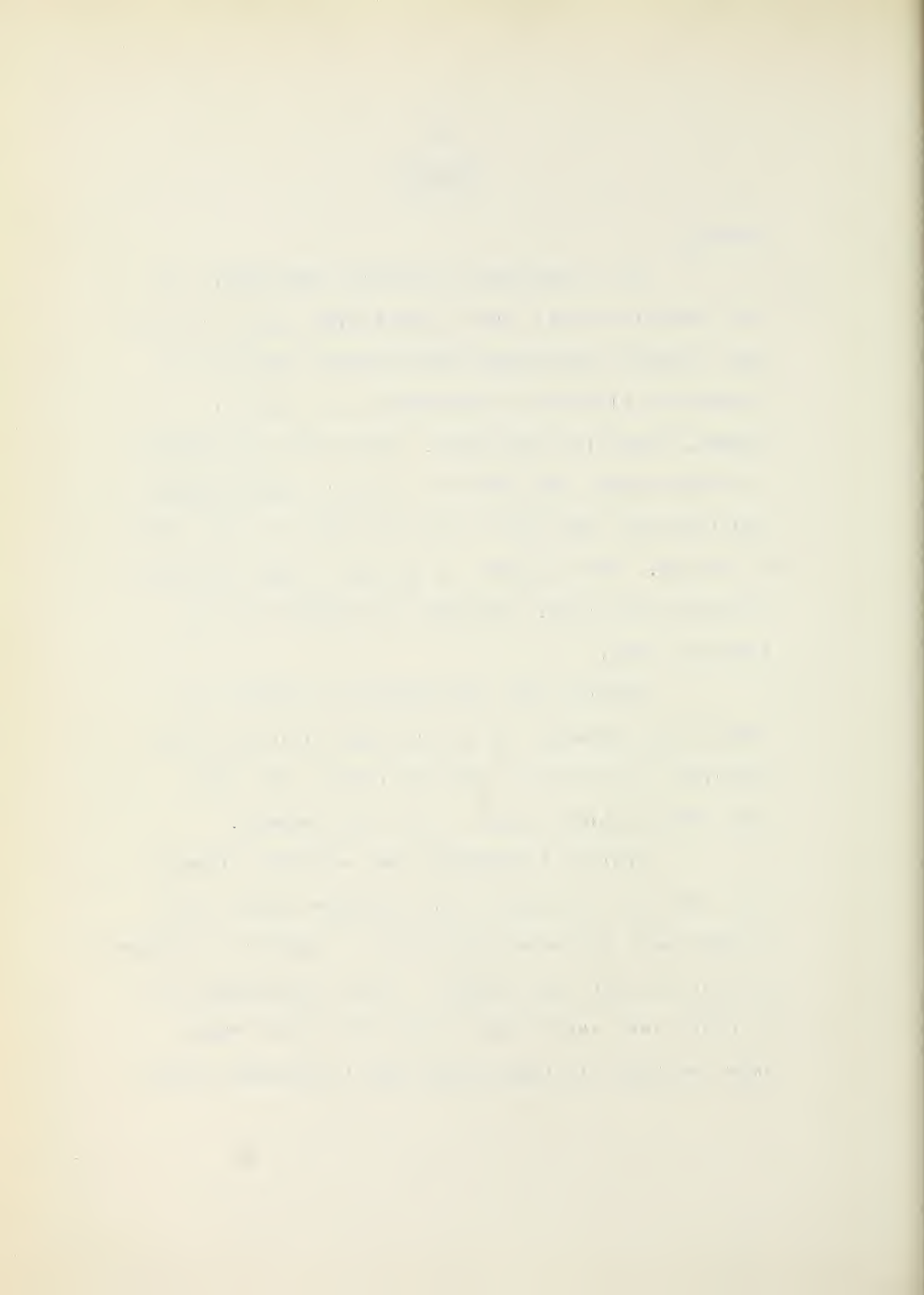
RESULTS

GENERAL

IT IS OBVIOUS IN STUDYING THE DETAIL IN THE PRECEDING PAGES THAT A PEACE-TIME CAREER IN THE ARMY ATTRACTS INDIVIDUALS WHO DISPLAY PERSONALITY TENDENCIES DIFFERING CONSISTENTLY, AT LEAST IN DEGREE, FROM CIVILIAN MALES. TEST PROFILES SUGGEST A PATTERN WHERE THE NEUROTIC TRIAD IS CONSPICUOUSLY LOW AND EVEN, AND PEAKS OCCUR ON THE F, Pd, Sc, AND MA SCALES. THE Mf SCORE IS RELIABLY LOWER THAN FOR CANADIAN CIVILIANS, BUT DOES NOT DESCEND TO THE AUTHORS' NORM.

DESPITE THE CONSIDERABLE DIFFERENCE AT THESE PEAKS BETWEEN THE SOLDIER AND CIVILIAN, GOOD SOLDIERS, AS RATED BY THEIR OFFICERS, ARE LOWER THAN POOR SOLDIERS RATED IN THE SAME MANNER.

SIMILAR DIFFERENCES ARE APPARENT BETWEEN GOOD AND POOR SOLDIERS OF THE INFANTRY CORPS, AND BETWEEN GOOD AND POOR SOLDIERS OF A COMPOSITE TRADESMAN AND SERVICE CORPS GROUP. IN ALL BREAKDOWNS IT IS FOUND THAT THE Pd AND Sc ARE THE SCALES WHICH SHOW THE MOST DIFFERENTIATION AND IT APPEARS LIKELY



THAT THESE TWO PHASES CONSTITUTE THE AREA IN WHICH ENQUIRY SHOULD BE MADE IN ANY PREDICTIVE STUDIES.

THE RELATIONSHIPS OF SEVERE WEATHER AND ISOLATION TO PERFORMANCE RATINGS IS NOT DEFINITE. THIS ENVIRONMENT WAS CERTAINLY AN IMPORTANT CONSIDERATION AS MOST OF THE SUBJECTS HAD PERFORMED SATISFACTORILY ON VERY SIMILAR TRAINING EXERCISES AS FAR AS THE ACTUAL MILITARY DUTIES WERE CONCERNED. HOWEVER, MUCH MODIFICATION MUST BE MADE IN THE ORIGINAL INTENTION OF ATTRIBUTING PERFORMANCE RESULTS SOLELY TO NORTHERN CONDITIONS.

#### INTERPRETATIONS:

THE FIRST OBVIOUS AND STRIKING POINT ABOUT THE SOLDIER PROFILE IS THE ABSENCE OF NEUROTIC TRENDS, - AS MEASURED BY THE TEST. THE SOLDIER IS PICTURED ON THE "TRIAD" SCALES, Hs, D, AND Hy AS LOWER EVEN THAN THE CANADIAN CIVILIAN. FURTHER, THERE IS VERY LITTLE DIFFERENCE IN MEAN SCORES BETWEEN GOOD AND POOR SOLDIERS. IT IS ENTIRELY LIKELY THEREFORE, THAT PRESENT SCREENING DEVICES, INVOLVING A PERSONNEL OFFICER'S INTERVIEW AND MEDICAL EXAMINATION, ARE SUCCESSFUL IN CATCHING AND ELIMINATING MOST POTENTIAL





NEUROTICS. THE FURTHER PROCESSING THROUGH GENERAL MILITARY TRAINING DISCOVERS IN A LENGTHY PRACTICAL WAY, THE FEW WHO ELUDE THE DEPOT TEAM. IF THE RECRUIT REACHES THE TRAINED SOLDIER STAGE, HE APPARENTLY HAS VERY LITTLE NEUROTIC MALADJUSTMENT.

PSYCHOTIC TENDENCIES DO NOT APPEAR TO RECEIVE THE SAME ATTENTION DURING SCREENING AND TRAINING PERIODS. AS MEASURED BY THE TEST, THE AVERAGE GOOD SOLDIER HAS CONSIDERABLE TREND TOWARDS THE ABNORMAL ALONG BOTH PSYCHOPATHIC AND SCHIZOPHRENIC LINES AND ALSO SHOWS HYPER-ACTIVITY ON THE MA SCALE. PERHAPS ONE OR OTHER OR ALL OF THESE TRAITS MUST BE PRESENT IN HIGH DEGREE FOR ANY INDIVIDUAL IN PEACE-TIME TO WANT TO JOIN A FIGHTING ORGANIZATION. THIS PROBABILITY IS SUPPORTED BY THE FACT THAT COMBATANT SOLDIERS GENERALLY, SCORE HIGHER THAN MEN IN THE SERVICES.

IN ALL BREAKDOWNS, HOWEVER, THERE IS A SIGNIFICANT DIFFERENCE ON THESE PEAKS BETWEEN THE GROUP GRADED O / S AND THAT GRADED F / P. THE POOR GROUP SCORE HIGHER AND THEREFORE GREATER ABNORMALITY IS SUGGESTED. THE TREND IS THE SAME FOR BOTH, THE

THE  
JOURNAL  
OF  
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PART 1  
1880  
LONDON  
PUBLISHED BY THE INSTITUTE  
1880

DIFFERENCE IN DEGREE PROBABLY BEING DUE TO THE INDIVIDUAL CONTROL MECHANISM. IF THIS IS A CORRECT ASSUMPTION, THE DIFFICULTY IN REFINING SCREENING METHODS TO CATCH UNDESIRABLE POTENTIAL PSYCHOTICS IS OBVIOUS AND GREAT. HOWEVER, THIS STUDY DEMONSTRATES THAT, AS STRESS INCREASES IN A MANNER WHICH IS FELT BY THE INDIVIDUAL, BY EXPOSING HIM TO NORTHERN SERVICE CONDITIONS, THE HIGHER SCORING MEN (MORE ABNORMAL BY TEST MEASUREMENT) LOSE EFFICIENCY FASTER.

IT WOULD SEEM THEREFORE, THAT SOME GRADUATION CAN BE MADE AT THE PSYCHOTIC END OF THE PROFILE BETWEEN SOLDIERS WHO REMAIN IN SUFFICIENTLY GOOD PERSONAL ADJUSTMENT TO OPERATE IN THE NORTH, AND THOSE WHO DETERIORATE TO THE POINT WHERE THEIR PERFORMANCE IS ONLY FAIR OR POOR. THE DIVIDING LINE CAN BE FAIRLY SPECIFIC ON A STATISTICAL BASIS, BUT WOULD REQUIRE CLINICAL CHECKING OF THE INDIVIDUAL IN PRACTICAL APPLICATION. TESTING MATERIAL COULD BE SHARPENED TO A POINT WHERE IT WOULD BE VERY VALUABLE AS A GENERAL INDICATOR OF RECRUITS REQUIRING SPECIAL EVALUATION BEFORE ACCEPTANCE.

THE OBVIOUS WEAKNESS OF A TEST OF THIS NATURE FOR PREDICTIVE WORK IS THE SIZE OF THE OVER-

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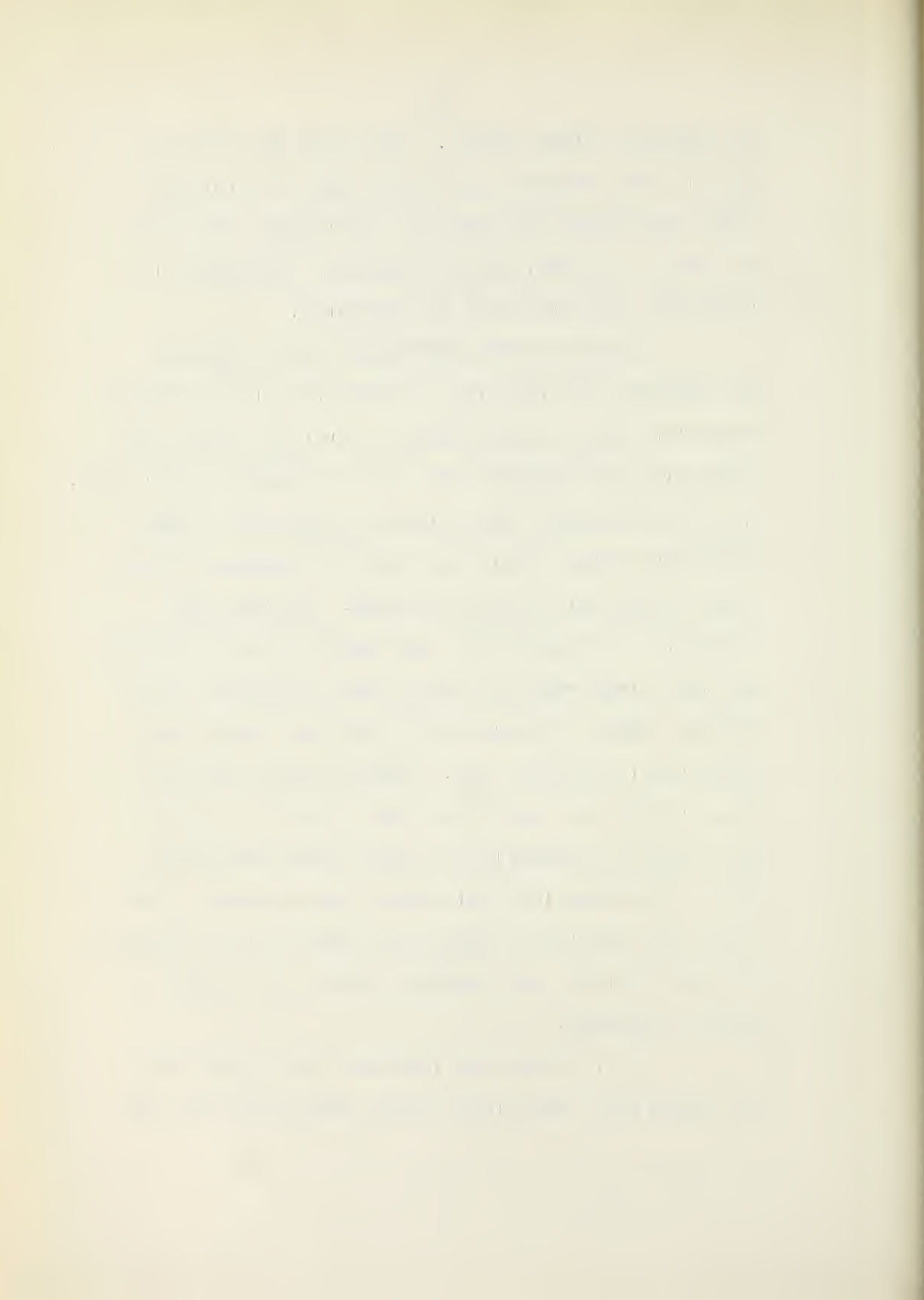
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LAP BETWEEN GRADED GROUPS. MANY GOOD MEN WOULD BE LOST IF TEST RESULTS ALONE WERE USED TO ELIMINATE THOSE INDIVIDUALS FOR WHOM THE EFFICIENCY PROGNOSIS WAS POOR. IN ADDITION THE DEGREE OF "POORNESS" IS IMPORTANT, AND DIFFICULT TO DETERMINE.

AGAINST THESE WEAKNESSES MAY BE MATCHED THE OVER-ALL DIFFICULTIES OF OPERATIONS IN THE NORTH. EVEN WITH HIGHLY RATED TROOPS, EFFICIENCY DROPS COMPARED WITH PERFORMANCE UNDER MORE FAVOURABLE CONDITIONS. THUS MORALE BECOMES EXCEPTIONALLY IMPORTANT. POOR TROOPS WHO BREAK EARLIER MAY HAVE AN UNUSUALLY GREAT EFFECT UPON THEIR BETTER COMRADES. IN ADDITION, EVACUATION OF CASUALTIES, AND ADMINISTRATIVE CONTROLS, ARE MANY TIMES MORE DIFFICULT THAN IN ORDINARY OPERATIONS. HENCE, CLEARING BACK THOSE WHO BECOME NON-EFFECTIVE IS A MAJOR TASK. PERHAPS MORE IMPORTANT STILL IS THE FACT THAT ONLY SMALL BODIES OF TROOPS CAN BE KEPT IN OPERATION FOR VERY HIGH MAINTENANCE COST. IF BORDERLINE INDIVIDUALS ARE RETAINED IN THE LINE, BUT FUNCTION AT PERHAPS AS LOW AS FIFTY PERCENT OF THEIR OPTIMUM, THE POSSIBLE EFFORT OF THE WHOLE GROUP IS REDUCED.

IT IS THEREFORE IMPORTANT THAT EVEN MINOR DIFFERENCES BE TAKEN INTO ACCOUNT WHEN DETAILING MEN





FOR DUTY UNDER SUCH STRESSFUL CIRCUMSTANCES. THE APPARENT FACT THAT SUCH DIFFERENCES ARE MORE A MATTER OF DEGREE ALONG A CONTINUUM, THAN OF CONTRASTING PERSONALITY FACTORS, MAKES SOME KIND OF TESTING DEVICE A WELCOME ADDITION TO PRESENT SCREENING METHODS. IMPROVEMENT OF INTERVIEW TECHNIQUES, WITH EMPHASIS ON PSYCHOTIC SYNDROMES WOULD NO DOUBT BE HELPFUL. HOWEVER, AITA (17) DISCOVERED IN A FOLLOW-UP STUDY OF 304 U.S. ARMY INDUCTEES THAT EVEN A PSYCHIATRIC INTERVIEW WAS INADEQUATE BY ITSELF FOR SCREENING PURPOSES. HE CONCLUDED THAT BETTER RESULTS WOULD BE ARRIVED AT BY A COMBINATION OF TEST AND INTERVIEW PROCEDURES.

COMPARISONS:

BLAIR'S STUDY OF ARMY DELINQUENTS LENDS ITSELF MOST READILY TO COMPARISON WITH THIS WORK BECAUSE HE DEALS WITH ESSENTIALLY THE SAME GROUP OF MEN. HE HAS MADE A DIFFERENT BREAKDOWN BY CONSIDERING DISCIPLINARY NON-EFFECTIVES. AGAIN THE DISTINCTIVE CANADIAN SOLDIER PATTERN APPEARS, WITH LOW NEUROTIC TRIAD AND PEAKS ON Pd AND Sc. THERE IS A NOTICEABLE RISE ON D, BUT THIS IS CONSIDERED TO BE A NORMAL INCLUSION WITH THE Pd OR Sc INDIVIDUAL WHO



FINDS HIMSELF IN DETENTION. THE GRAPHICAL COMPARISON OF HIS DELINQUENTS WITH THE CANADIAN SOLDIER IS SHOWN IN FIGURE 13.

SUPERIMPOSED ON THE SAME GRAPH, IS THE PROFILE DERIVED BY CLARK (4) FOR U.S. ARMY AWOLs. THERE IS A STRIKING DIFFERENCE IN THE NEUROTIC AREAS AS DESCRIBED BY THE TEST. AMERICAN DELINQUENTS AS OPPOSED TO ALL GROUPS OF CANADIAN SOLDIERS, SHOW HIGH NEUROTIC TENDENCIES. THE PSYCHOTIC TRENDS ARE SIMILAR TO THE CANADIAN OFFENDER GROUP. WHEN COMPARED WITH THE U.S. SOLDIER NORM AS DERIVED BY SCHMIDT (3), THERE IS A STILL GREATER DIFFERENCE.

IT IS QUITE OBVIOUS THAT PRESENT SELECTION PROCEDURES IN THE CANADIAN ARMY ELIMINATE THE MEN WHO SCORE HIGH ON THE NEUROTIC TRAITS MEASURED BY THE MMPI. THERE IS NO EVIDENCE AT PRESENT THAT POTENTIAL PSYCHOTICS CAN BE DETECTED AS POSSIBLE UNSUCCESSFUL SOLDIERS. INDEED, THE O / S GROUP OF SOLDIERS ARE SUFFICIENTLY HIGH ON SOME PSYCHOTIC SCALES THAT IT WILL BE DIFFICULT TO DECIDE WHETHER THE INDIVIDUAL HAS JUST ENOUGH TENDENCY TOWARDS Pd OR Sc TO MAKE HIM A GOOD SOLDIER, OR WHETHER HE HAS OVER-SHOT THE MARK AND SHOULD BE RATED AS A POOR PROSPECT.

The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The second part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The third part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The fourth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The fifth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The sixth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The seventh part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The eighth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The ninth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The tenth part of the paper is devoted to a detailed discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science.

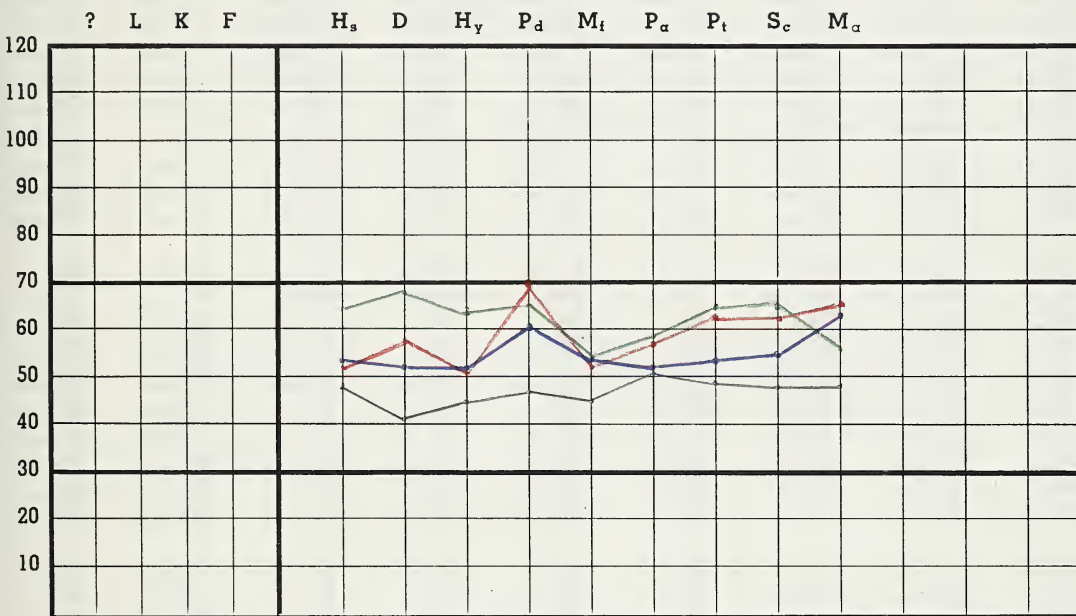
# The Minnesota Multiphasic Personality Inventory

## RECORDING SHEET

e \_\_\_\_\_ Date \_\_\_\_\_  
 ess \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ Married? \_\_\_\_\_  
 opation \_\_\_\_\_ Referred by \_\_\_\_\_

Scorer's Initials \_\_\_\_\_

### PROFILE CHART



	? L K F	H <sub>s</sub>	D	H <sub>y</sub>	P <sub>d</sub>	M <sub>t</sub>	P <sub>a</sub>	P <sub>t</sub>	S <sub>c</sub>	M <sub>a</sub>	
L WITHOUT K		64	69	64	65	54	58	63	64	56	U.S. AWOL
Standard Score		53	52	52	60	54	52	53	55	63	CDN SOLDIER
Score		52	57	51	70	52	57	61	61	65	CDN DEL.
		48	41	45	47	45	51	49	48	48	U.S. SOLDIER
K to be added											
Raw Score with K											

FIGURE 13

A COMPARISON BETWEEN

U.S. SOLDIER AWOL	- (N-100)
CDN SOLDIER	- (N-600)
CDN SOLDIER DELINQUENT	- (N-50)
U.S. SOLDIER	- (N-98)

Signature \_\_\_\_\_



[illegible]

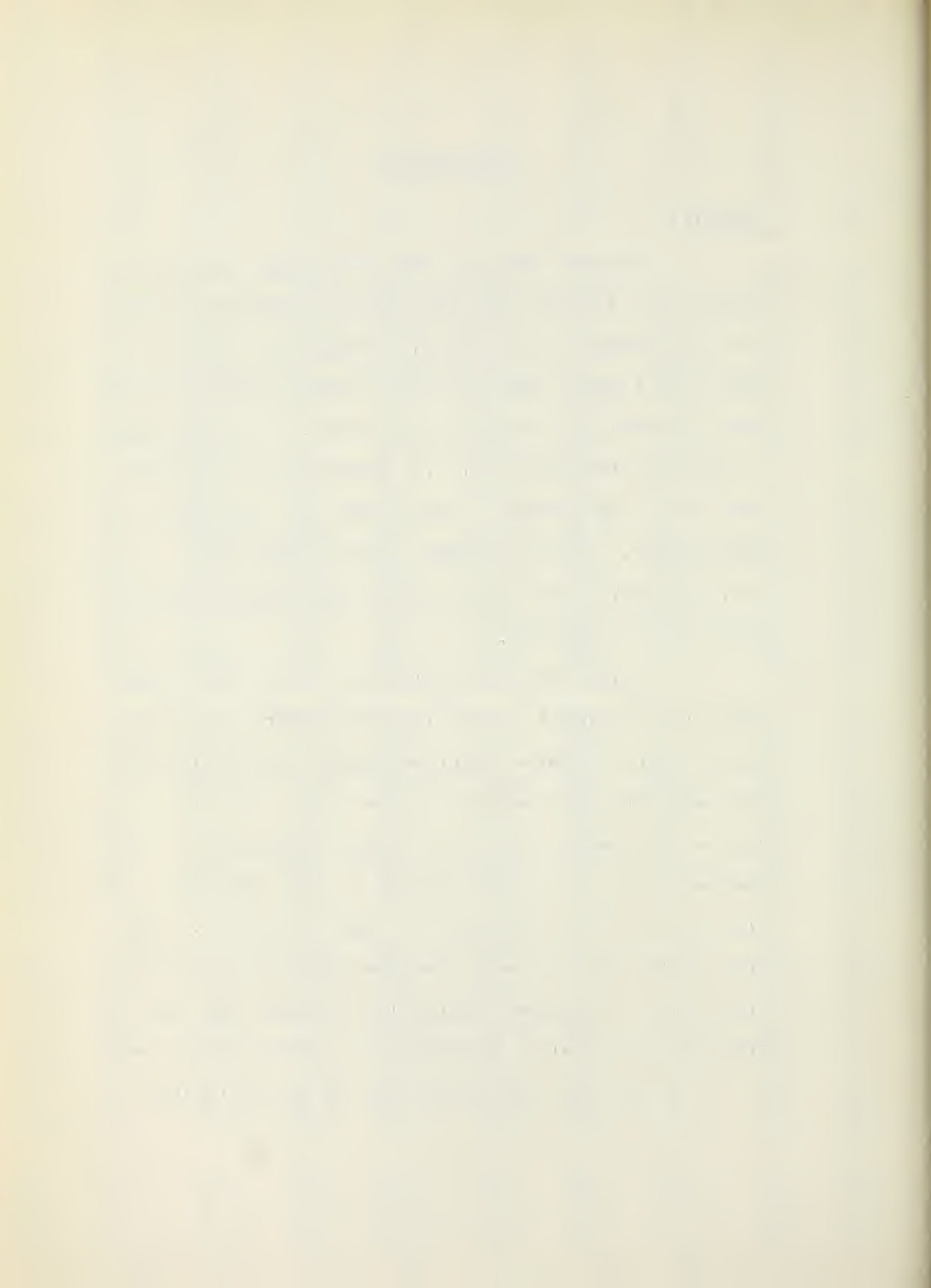


CONCLUSIONSGENERAL:

USING A GROUP OF 600 OPERATIONAL CANADIAN TROOPS, IT IS FOUND THAT THE TYPICAL CANADIAN SOLDIER DIFFERS MARKEDLY IN PERSONALITY STRUCTURE, AS MEASURED BY THE MMPI, FROM BOTH THE CANADIAN MALE CIVILIAN, AND THE AMERICAN CIVILIAN AND SOLDIER. IN ATTEMPTING TO MEASURE PERSONALITY, IT IS IMPORTANT TO RECOGNIZE THIS POINT AND PROVIDE A VALID NORM FOR THE GROUP UNDER STUDY. USING THE MMPI A PROFILE HAS BEEN DERIVED SHOWING THE SOLDIER WITH PEAK POINTS ON THE SCALES: F, Pd, AND Sc.

USING OVER-ALL EFFICIENCY AS THE CRITERION, THERE IS A RELIABLE STATISTICAL DIFFERENCE ON THE Pd AND Sc SCALES BETWEEN SOLDIERS GRADED OUTSTANDING OR SUPERIOR AND THOSE GRADED FAIR OR POOR. THIS IS HELPFUL IN GENERALIZING AS TO TREND TOWARDS THE ABNORMAL, BUT IT IS QUESTIONABLE IF TEST RESULTS WILL BE EFFECTIVE IN PREDICTIVE WORK AT DEPOTS. THE BEST VALUE MIGHT BE RECEIVED FROM SUCH TESTS IF COMBINED WITH A PERSONNEL OFFICER'S INTERVIEW AND JUDICIAL REFERRAL FOR CLINICAL SCREENING ON A PSYCHIATRIC LEVEL.

THE FACT THAT THIS TEST, ON A STATISTICAL



BASIS, DISCRIMINATES AT SOME POINTS BETWEEN BOTH BLAIR'S DELINQUENT GROUP AND THE CANADIAN SOLDIER, AND HIGH-, AND LOW-RATED SOLDIERS BY AN EFFICIENCY CRITERION IS INDEED INTERESTING. THE INTEREST IS - HEIGHTENED WHEN IT IS OBSERVED THAT THE DELINQUENT, AND LOW-RATED, GROUPS ARE BOTH SIMILAR IN THAT THEY ARE COMPARATIVELY LOW AT THE NEUROTIC END OF THE PROFILE AND HIGH AT THE PSYCHOTIC END. IT APPEARS LOGICAL THEN TO CONCLUDE THAT SELECTION DEVICES IN THE CANADIAN ARMY HAVE SCREENED OUT NEUROTICS FROM THE GROUP.

AGAIN IT SEEMS PROPER TO CONCLUDE THAT HIGH SCORING INDIVIDUALS BECOME MALADJUSTED MORE QUICKLY THAN LOWER SCORING MEN. UNDER SOME CIRCUMSTANCES THEY BECOME DELINQUENTS, UNDER OTHERS SUCH AS NORTHERN SERVICE CONDITIONS THEY LOSE EFFICIENCY. CERTAINLY THERE IS SUFFICIENT EVIDENCE IN THESE PROJECTS TO WARRANT CONTINUED RESEARCH TO IMPROVE SCREENING TECHNIQUES IN ORDER TO REDUCE WASTAGE IN ADVANCED TRAINING.

SOME MENTION IS NECESSARY HERE OF THE CONTINUAL HIGH SCORES ON THE F SCALE. THE TEST MANUAL DESCRIBES TWO TYPES OF INDIVIDUALS WHO MAY

THE HISTORY OF THE  
CITY OF BOSTON  
FROM THE FIRST SETTLEMENT  
TO THE PRESENT TIME  
IN TWO VOLUMES  
BY NATHANIEL BENTLEY  
OF THE BARR, AT LAW  
IN THE CITY OF BOSTON  
PUBLISHED BY J. B. BENTLEY  
AT THE SIGN OF THE SHIELD  
IN THE CITY OF BOSTON  
1822

BE HIGH VALIDLY ON THIS SCALE; THE HIGHLY INDIVIDUAL AND INDEPENDENT MAN, OR A BADLY PSYCHOTIC SUBJECT. IT IS CONCLUDED THAT THE SOLDIER COULD QUITE REASONABLY FIT EITHER ONE OR BOTH OF THE SUGGESTED TYPES. HENCE IT HAS BEEN ASSUMED THAT HIGH F SCORES ARE NORMAL ADJUNCTS TO PEAKS ON THE PD AND SC SCALES.

IT IS NOT CLEAR THAT NORTHERN ENVIRONMENT WAS THE ONLY FACTOR CAUSING LOSS OF EFFICIENCY AMONG OTHERWISE WELL-ADJUSTED SOLDIERS. HOWEVER, THE CONDITIONS UNDER WHICH THE EXERCISE TOOK PLACE CERTAINLY PLACED ADDITIONAL STRESS ON THE INDIVIDUAL. IT WOULD APPEAR LIKELY THAT A TEST SIMILAR TO THE MMPI MIGHT BE DEVISED WHICH WOULD PROVIDE A GENERAL INDICATION OF INDIVIDUALS MOST LIKELY TO EXPERIENCE DIFFICULTY WHEN EXPOSED TO THE ADDITIONAL STRAIN OF SUCH SERVICE.

#### FUTURE RESEARCH:

IT IS OBVIOUS THAT FURTHER WORK SHOULD BE DIRECTED TOWARDS SHARPENING DEVICES FOR DETECTING POTENTIAL PSYCHOTICS BEFORE THEY REACH A TRAINING ENVIRONMENT WHICH FORCES A BREAKDOWN. SERVICE CONDITIONS ARE SUCH THAT CUMBERSOME METHODS MUST BE





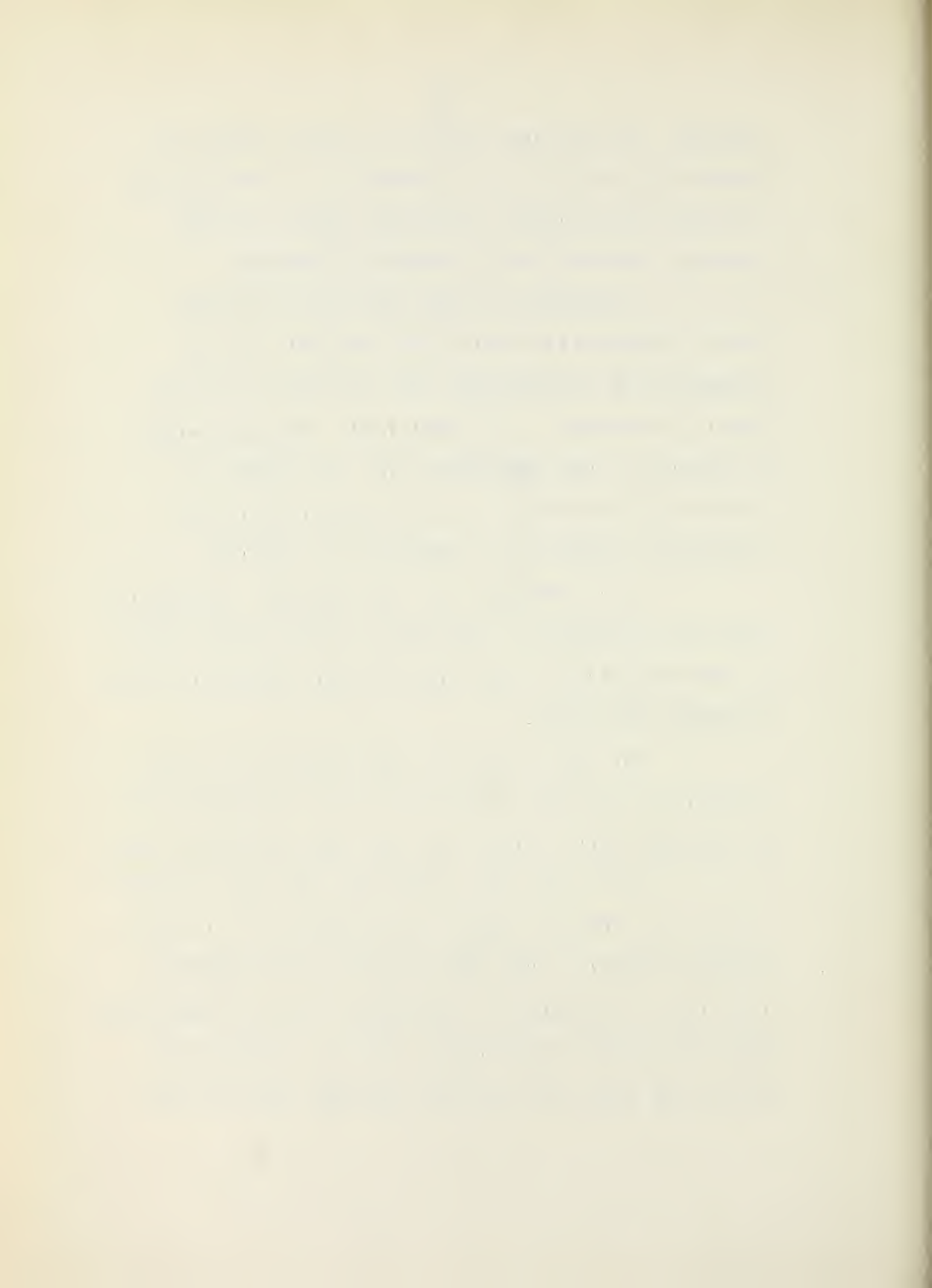
AVOIDED. THE TESTING FIELD IS A LIKELY SOURCE FOR GENERALIZED INDICATION OF ABNORMALITY. COMBINATIONS OF TESTS WITH CLINICAL INTERVIEWS SHOULD PROVIDE VALUABLE INFORMATION FOR SCREENING PURPOSES.

A PERSONALITY TEST WITH SIMILAR MATHEMATICAL DESCRIPTIVE DEVICES TO THE MMPI MIGHT BE ASSEMBLED AND STANDARDIZED FOR THE SPECIFIC USE OF SERVICE PERSONNEL. ALL OPERATIONAL EXERCISES MIGHT BE STUDIED AS WAS SWEETBRIAR WITH THE OBJECT OF COLLECTING STATISTICS AS TO THE RELATIONSHIPS OF PERSONALITY COMPOSITE TO SUCCESS AS A SOLDIER.

IT IS PROBABLE TOO, THAT HELPFUL INFORMATION WOULD BE DISCOVERED BY TESTING ALL CASUALTIES, MEDICAL OR ADMINISTRATIVE AT THE TIME OF THEIR EVACUATION FROM AN OPERATIONAL ROLE.

THE RELATIONSHIP OF DELINQUENCY AND INEFFICIENCY IS A RELATED STUDY WHICH COULD ADVANTAGEOUSLY BE EXPLORED MUCH FURTHER THAN HAS BEEN ATTEMPTED HERE.

IF AT ANY TIME A WAR BROKE OUT WHICH NECESSITATED EMPLOYMENT OF TROOPS IN THE NORTH, IT IS CONSIDERED ESSENTIAL THAT SOME PLAN BE DEvised WHEREBY INDIVIDUAL ADJUSTMENT TO THE UNUSUAL SERVICE CONDITIONS COULD BE STUDIED INTENSIVELY. SUCH AN UNDERTAKING, DESPITE THE MANY DIFFICULTIES INVOLVED, WOULD BE WELL



WORTH-WHILE IN TERMS OF MANPOWER SAVING AND RESULTING  
OVER-ALL EFFICIENCY.

SUMMARY:

A CHARACTERISTIC PROFILE USING THE MINNESOTA  
MULTIPHASIC PERSONALITY INVENTORY HAS BEEN DERIVED  
FOR THE CANADIAN SOLDIER. IT HAS BEEN CONCLUDED THAT  
PRESENT SCREENING DEVICES ELIMINATE POTENTIAL NEUROTICS  
SATISFACTORILY, BUT THAT POTENTIAL PSYCHOTICS ARE NOT  
DETECTED. BOTH GOOD AND POOR SOLDIERS REGISTER DEVI-  
ATION FROM "NORMAL" ALONG THE PD AND SC SCALES OF THE  
TEST, THE DIFFERENCE BEING ONE OF DEGREE. THE EFFECT  
OF THE NORTHERN SERVICE CONDITIONS WAS NOT NECESSARILY  
RESPONSIBLE FOR OBSERVED DIFFERENCES IN PERFORMANCE OF  
GROUPS. FURTHER RESEARCH ALONG SIMILAR LINES IS NECES-  
SARY AND IS CONSIDERED WELL WORTH-WHILE.

THE UNIVERSITY OF CHICAGO PRESS

CHICAGO, ILL. 60607

1968

THE UNIVERSITY OF CHICAGO PRESS

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GUIDE TO RATING SHEET

TO CHECK THE VALUE OF THE TESTS USED IN THE EXPERIMENT, IT IS NECESSARY TO OBTAIN FOR EACH SUBJECT A MEASURE OF HIS SUCCESS IN LIFE AND DUTY IN THE NORTH. SUPERVISING OFFICERS ARE THEREFORE ASKED TO RATE EACH MAN WHO TAKES THE TESTS IN ALL THE FOLLOWING QUALITIES:

1. CONSCIENTIOUSNESS - THE MAN'S ATTITUDE TO HIS JOB. HIGH RATINGS WOULD BE GIVEN TO RELIABLE, CAREFUL, HARD WORKING SOLDIERS.
2. INITIATIVE - THE MAN'S ABILITY TO SEE THE JOB AND DO IT. HIGH RATINGS WOULD BE GIVEN TO MEN WHO TRY TO SOLVE PROBLEMS FOR THEMSELVES, TAKE RESPONSIBILITY, AND TRY TO DO THE JOB WITHOUT WAITING FOR INSTRUCTIONS.
3. CO-OPERATION - THE MAN'S ATTITUDE TO HIS FELLOWS AND NCO'S. HIGH RATINGS WOULD BE GIVEN TO SOLDIERS WHO TAKE SUGGESTIONS FROM COMRADES IN GOOD PART, HELP OTHERS, AND TAKE ORDERS AND CRITICISMS FROM SUPERVISORS WELL.
4. HEALTH - THE MAN'S PHYSICAL CONDITION AND STAMINA. HIGH RATINGS WOULD BE GIVEN TO MEN SELDOM OR NEVER ABSENT FROM DUTY BECAUSE OF ILL HEALTH.
5. FLEXIBILITY - THE EASE WITH WHICH THE MAN CAN ADJUST TO CHANGE. HIGH RATINGS WOULD BE GIVEN TO MEN WHO CAN CHANGE FROM ONE JOB OR LOCATION TO ANOTHER EASILY, AND SETTLE DOWN QUICKLY.





6. INTELLIGENCE - THE MAN'S POTENTIAL ABILITY, WITHOUT REGARD TO HIS ACTUAL PERFORMANCE. HIGH RATINGS WOULD BE GIVEN TO MEN WHO CAN LEARN QUICKLY AND REMEMBER WELL, CONTRIVE SOLUTIONS TO THE PROBLEMS OF EVERY-DAY LIFE, AND ARE GENERALLY SHREWD AND CAPABLE.

7. OVER-ALL EFFICIENCY - THE MAN'S ACTUAL PERFORMANCE ON THE JOB. HIGH RATINGS WOULD BE GIVEN TO MEN IN WHOM THERE WAS THE BEST BALANCE OF THE ABOVE QUALITIES AND ANY OTHER IMPORTANT ASSETS, IN ORDER TO PRODUCE CONSISTENT GOOD WORK.

8. POPULARITY - THE ATTITUDE OF THE MAN'S ASSOCIATES TOWARD HIM. HIGH RATINGS WOULD BE GIVEN TO MEN WHO MAKE FRIENDS EASILY IN THE UNIT, AND ARE WELL LIKED BOTH ON AND OFF DUTY.

9. DISPOSITION - THE MAN'S TEMPERAMENT. HIGH RATINGS WOULD BE GIVEN TO CHEERFUL, AGREEABLE, EVEN-TEMPERED MEN.

10. OVER-ALL SOCIAL ADJUSTMENT - THE MAN'S REACTION TO LIFE IN THE NORTH, AND PARTICULARLY TO SOCIAL CONDITIONS. HIGH RATINGS WOULD BE GIVEN TO MEN WHO SEEM TO LIKE THE NORTH, FIT THEMSELVES TO THE SOCIAL LIFE OF THE CAMP, AND TRY TO GET ALONG WITH THEIR ASSOCIATES.

RATINGS SHOULD BE MADE ON THE ACCOMPANYING RATING SHEET. OPPOSITE THE NAME OF THE MAN, RATINGS SHOULD BE PLACED IN THE VARIOUS COLUMNS, WHICH ARE NUM-



BERED AND MARKED WITH ABBREVIATIONS TO CORRESPOND WITH THE QUALITIES LISTED ABOVE. THE LETTERS WHICH FORM THE RATINGS SHOULD BE ENTERED ACCORDING TO THE FOLLOWING CODE:

O - OUTSTANDING; AMONG THE TOP 5%

S - SUPERIOR; AMONG THE NEXT 25%

G - GOOD; ONE OF THE MIDDLE 40%

F - FAIR; AMONG THE NEXT 25%

P - POOR; AMONG THE BOTTOM 5%

EACH MAN SHOULD BE RATED IN COMPARISON WITH THE ACTUAL PERFORMANCE OF OTHER WORKERS WHOM THE OFFICER HAS SEEN WORKING ON COMPARABLE JOBS. THE FIGURES SHOWN IN THE FIVE GROUPS IN WHICH THE RATINGS FALL ARE BASED ON ACTUAL STUDIES OF WORKERS IN ORDINARY JOBS; IN ANY LARGE GROUPS THE BULK OF THE WORKERS ARE GOOD, SOLID, SATISFACTORY MEN, AND THERE ARE ONLY A FEW REALLY GOOD OR REALLY BAD WORKERS. BUT GROUPS IN THE NORTH ARE LIKELY TO BE SMALL; AND AN OFFICER MAY FIND THAT MEN WORKING UNDER HIM NOW DO NOT FALL INTO GROUPS IN THE PROPORTIONS SHOWN ABOVE. TO CORRECT FOR THIS, EACH OFFICER SHOULD RATE HIS MEN IN COMPARISON WITH ALL

THE  
JOURNAL OF THE  
ROYAL ANTHROPOLOGICAL INSTITUTE

Volume 100, Part 1, 1970  
Edited by  
J. H. REES  
London  
1970

1. The evolution of man: a review of the evidence 2. The evolution of man: a review of the evidence 3. The evolution of man: a review of the evidence 4. The evolution of man: a review of the evidence 5. The evolution of man: a review of the evidence 6. The evolution of man: a review of the evidence 7. The evolution of man: a review of the evidence 8. The evolution of man: a review of the evidence 9. The evolution of man: a review of the evidence 10. The evolution of man: a review of the evidence
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THE WORKERS HE HAS EVER SEEN IN COMPARABLE JOBS, OUTSIDE THE NORTH AS WELL AS IN IT.

OFFICERS SHOULD STRIVE TO MAKE THEIR RATINGS CAREFULLY AND ACCURATELY. THEY SHOULD TRY TO FORGET PERSONAL LIKES AND DISLIKES. THEY SHOULD CONSIDER EACH MAN'S ASSETS AND LIABILITIES SEPARATELY, AND TRY TO AVOID THE BIAS WHICH COMES WHEN THE RATING ON SOME OBVIOUS CHARACTERISTIC IS TAKEN AS TYPICAL OF ALL OTHER QUALITIES. ABOVE ALL, OFFICERS SHOULD TRY TO SPREAD THEIR RATINGS IN THE VARIOUS GROUPS, ROUGHLY ACCORDING TO THE PERCENTAGE SHOWN. IF AN OFFICER MARKS MOST OF HIS MEN "F" OR "P" ON MOST QUALITIES, IT MAY BE BECAUSE HE HAS BEEN UNLUCKY ENOUGH TO GET AN UNUSUALLY LARGE NUMBER OF LOW-GRADE MEN. BUT IT IS PERHAPS MORE LIKELY THAT HE HAS BEEN TOO SEVERE IN HIS RATINGS, AND IS COMPARING HIS MEN AGAINST AN IDEAL WORKER, RATHER THAN WITH THE ACTUAL PERFORMANCE OF MEN IN HIS OWN PERSONAL EXPERIENCE.

TO ASSIST SUPERVISING OFFICERS, EXAMPLES ARE GIVEN BELOW;



NAME	QUALITIES									
	1	2	3	4	5	6	7	8	9	10
PTE DOE, J.	O	G	S	O	G	O	S	G	S	G
PTE ROE, R.	P	F	F	S	P	P	P	G	S	G

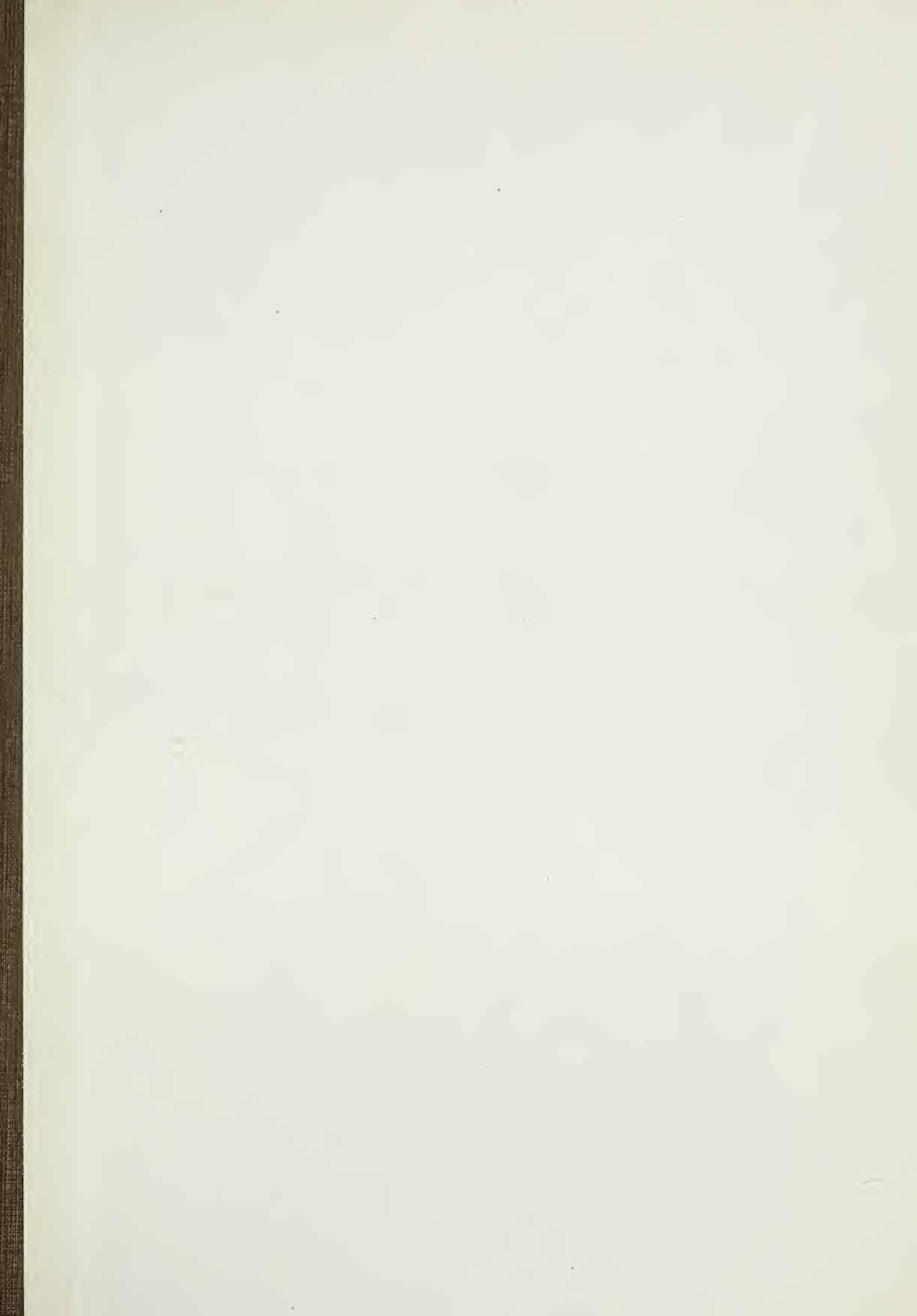
THESE EXAMPLES WERE SELECTED TO INDICATE THAT A MAN WITH SOME OUTSTANDING CHARACTERISTICS MAY HAVE A LOWER RATING ON GENERAL EFFICIENCY, AND THAT THE POOREST OF MEN MAY HAVE SOME HIGH RATINGS.











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